OFFICE OF GAS ACCESS REGULATION

OffGAR WESTERN AUSTRALIA

DRAFT DECISION: ACCESS ARRANGEMENT PARMELIA PIPELINE

Submitted by

CMS Gas Transmission of Australia

INDEPENDENT GAS PIPELINES ACCESS REGULATOR
WESTERN AUSTRALIA

27 October 1999

PREFACE

On 7 May 1999 CMS Gas Transmission of Australia (CMS) submitted a proposed Access Arrangement and Access Arrangement Information for the Parmelia Pipeline 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 CMS will make access to the Parmelia Pipeline available to third parties.

The Regulator assessed the proposed Access Arrangement and Access Arrangement Information against the requirements and principles of the *Gas Pipelines Access (WA) Law 1998* which includes the Code and the *National Gas Pipelines Access Agreement*. 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 Friday 12 November 1999, and should be addressed to:

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

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 by contacting Philip Brown on +61 8 9213 1933 or through the Office's web site: (http://www.offgar.wa.gov.au/).

The Office of Gas Access Regulation also proposes to hold a seminar on the issues raised in the Regulator's Draft Decision. The seminar will be held commencing 9 am on Monday 29 November 1999, in the 4 Floor Theatrette 168 St Georges Terrace Perth. The seminar will close at 12 noon. Those wishing to attend should advise Mr Philip Brown by Wednesday 24 November 1999.

KEN MICHAEL
GAS ACCESS REGULATOR

PART A

DRAFT DECISION

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On 7 May 1999, CMS Gas Transmission of Australia (CMS) submitted an Access Arrangement and Access Arrangement Information for the Parmelia Pipeline 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 Code and the *Gas Pipelines Access (WA) Law* 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 detailed in Part B of this Draft Decision.

In order for the Access Arrangement to be approved, the Regulator will require amendment of the Access Arrangement and provision of further information in the Access Arrangement Information. These requirements of the Regulator are summarised below under the following categories.

- Non-tariff matters.
- Reference tariffs.
- Fees, charges and penalties.

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).

If an Access Arrangement includes matters in addition to the above, the Regulator may refuse to approve the Access Arrangement should the inclusion of these matters be considered not reasonable.

The Regulator's assessment of the adequacy of the Access Arrangement in respect of non-tariff matters is summarised below together with statements of amendments that must be made to the Access Arrangement before it will be approved by the Regulator.

Services Policy

A Services Policy is provided in section 4 of the Access Arrangement which commits CMS to making available Reference Services to Prospective Users, and negotiating in good faith for the provision of Non-Reference Services to Prospective Users, subject to there being sufficient Spare Capacity in the Parmelia Pipeline.

Four types of Reference Services are specified in section 4 of the Access Arrangement and described in section 4 of the General Terms and Conditions. The Reference Services are described in terms of the duration of the supply period and continuity of supply, as follows.

- Firm Extended Service: a continuous service (under normal operating conditions) over a contract period of between 10 and 20 years.

- Interruptible Extended Service: a service that may be curtailed or interrupted at the discretion of CMS, over a contract period of between 10 and 20 years.

- Firm Spot Service: a continuous service (under normal operating conditions) over a contract period of one Gas Day.

- Interruptible Spot Service: a service that may be curtailed or interrupted at the discretion of CMS, where the spot service is for a contract period of one Gas Day.

All Reference Services relate to a single Receipt Point and a single Delivery Point. Quantities of gas receivable and deliverable as part of each Reference Service are defined as upper limits in terms of Maximum Daily Quantity (MDQ), Maximum Hourly Quantity (MHQ) and Maximum Flow Rate (MFR).

The only commitments made in the Access Arrangement for the provision of Non-Reference Services are for CMS to negotiate in good faith with Prospective Users for the provision of such services, having regard to applicable principles of the Reference Tariff Policy.

The Regulator considered that the Reference Services proposed by CMS were in several respects inconsistent with the services commonly provided by pipeline operators and as such may not meet the criterion of being Services that are likely to be sought by a significant part of the market. This was particularly the case in respect of minimum contract terms for extended services, and the restriction on Reference Services to single gas Receipt Points and Delivery Points. The Regulator also had concerns in regard to the ambiguity of provisions relating to Service Agreements for Spot Services and the discretionary powers of CMS to

attach conditions to Service Agreements in addition to any conditions specified in the Access Arrangement.

The Access Arrangement is considered to not meet the requirements of the Code in respect of a Services Policy. Required amendments to the Access Arrangement are set out below.

Amendment 1

Section 4 of the General Terms and Conditions should be amended to make provision for Reference Services to accommodate multiple Receipt Points and Delivery Points in a single Service Agreement.

Amendment 2

Section 4 of the General Terms and Conditions should be amended to make provision for minimum contract duration of no greater than one year for Firm Extended Services and Interruptible Extended Services.

Amendment 3

Section 4 of the General Terms and Conditions should be amended to clarify that multiple purchases of Spot Services may be made under a single Service Agreement for Spot Services.

Amendment 4

Section 7.1(c) and 7.2 of the Access Arrangement and section 2 of the General Terms and Conditions should be amended to state the conditions that may be attached to Service Agreements for provision of Reference Services and to remove discretionary powers of CMS to attach conditions to Service Agreements for provision of Reference Services, where such conditions are in addition to those provided for in the General Terms and Conditions.

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.

CMS has provided General Terms and Conditions in a single document as Appendix 3 of the Access Arrangement. The General Terms and Conditions address several matters that relate to specific requirements of the Code. The Regulator's considerations in respect of these matters are contained in the relevant sections of this Draft Decision. There were, however, several other matters addressed in the General Terms and Conditions that were not required by the Code to be addressed and that the Regulator has not agreed as reasonable. In the absence of justification, these matters will require amendment before the Regulator will approve the Access Arrangement. Required amendments to the General Terms and Conditions are as follows.

Amendment 5

Section 4.3 of the General Terms and Conditions should be amended to specify the degree of reliability for the Firm Extended Service.

Amendment 6

Section 13.2 and schedule 3 of the General Terms and Conditions should be amended to make provision for the introduction of the broadest gas quality specification as provided for in the *Dampier to Bunbury Pipeline Regulations 1998*.

Amendment 7

Section 14.4 of the General Terms and Conditions should be amended to allow for the non-payment of disputed invoices, or the disputed portion of an invoice, in instances of a manifest error in the invoice.

Amendment 8

Section 16.3 of the General Terms and Conditions should be altered to provide for accuracy ranges of metering equipment to be specified for different flow rates, to state whether specifications of accuracy are based on units of energy or volume, and to provide for statements of accuracy in the same units as are used for billing.

Amendment 9

Section 19.6 of the General Terms and Conditions should be amended to remove the provision for CMS to exercise discretion in respect of the level of public liability insurance that Users are required to hold.

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. CMS proposes to manage the Parmelia Pipeline 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 CMS 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 some concerns with the lack of specific provision in the Trading Policy for Users to alter Receipt Points and Delivery Points under a Service Agreement. An inability to alter Receipt Points and Delivery Points may restrict the application of Bare Transfers. As a result, the Access Arrangement is considered to not meet the requirements of the Code in respect of a Trading Policy. The required amendment to the Access Arrangement is as follows.

Amendment 10

Section 20 of the General Terms and Conditions should be amended to specify conditions under which consent will or will not be given to alter Receipt Points and Delivery Points in a Service Agreement, and any conditions that must be adhered to as a condition of consent being given.

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.

CMS has proposed for a queue to exist whenever there is insufficient Spare Capacity to satisfy an Access Request which has been lodged with CMS. Provision is made for separate queues to exist for Firm Extended and Interruptible Extended Reference Services. No specific mention is made of queuing arrangements for Non-Reference Services. Provision is made for CMS to allocate pipeline capacity other than in order of queuing in times of "high demand for pipeline services and open seasons and similar invitations", in which case CMS may deal with Access Requests in such a manner as to maximise pipeline utilisation and economically efficient outcomes for the Parmelia Pipeline.

The Regulator considers that the Queuing Policy proposed by CMS 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. Required amendments to the Access Arrangement are as follows.

Amendment 11

Section 10 of the Access Arrangement (Queuing Policy) should be amended to provide further information on how priorities of access to Spare Capacity or Developable Capacity will be determined in respect of Access Requests for Non-Reference Services.

Amendment 12

Section 10 of the Access Arrangement (Queuing Policy) should be amended to indicate how the priority of a Prospective User on a queue for one service is to be determined vis a vis Prospective Users on queues for other services.

Amendment 13

Section 10 of the Access Arrangement (Queuing Policy) should be amended to describe in detail the circumstances in which CMS may deal with Access Requests other than in accordance with priorities as defined by queues, and describe the method by which priorities of Prospective Users will be determined in these circumstances.

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.

The Extensions/Expansions Policy proposed by CMS indicates that an extensions/expansion of the pipeline may be made subject to the Access Arrangement either at the discretion of CMS, and subject to the consent of the Regulator, or by amendment to the Access Arrangement where the amendment is required by the Code. The Policy does not, however, explicitly address a decision for an extension or expansion to be not treated as part of the Covered Pipeline. The Regulator considers that in not indicating how such a decision is to be made, the Access Arrangement does not meet the requirements of the Code. The required amendments to the Access Arrangement are as follows.

Amendment 14 Section 11 of the Access Arrangement (Extensions/Expansions Policy) should be amended to include a clause indicating that CMS may elect for a pipeline extension or expansion to be not subject to the Access Arrangement, subject to providing written notice to the Regulator.

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).

CMS has proposed a Revisions Submission Date of 31 October 2003, and a Revisions Commencement Date of 1 May 2004. The implied term of the Access Arrangement is approximately 4½ years. In stating a Revisions Submission Date and a Revisions Commencement Date, the Access Arrangement is considered to meet the requirements of the Code in respect of the Review Date.

The Access Arrangement also makes provision for CMS to conduct a review of the Access Arrangement in the event of:

- a pipeline extension is undertaken which is subject to the Access Arrangement;
- there is a material or significant change in the market, economic, political or general regulatory conditions or circumstances from those which, at the Effective Date, are forecast and assumed will exist for the duration of the Access Arrangement;

- there is a change in the provisions or administration of any Act or other law, including the Code or the *Trade Practices Act (1974)* (Cth), which necessitates a review of the Access Arrangement;

- any other event occurs which requires the Access Arrangement to be updated or amended under any other provision of the Access Arrangement; or

- if the proposed Commonwealth goods and services tax, when it is introduced, is different from what was understood at the Effective Date.

The Regulator gave consideration to whether the provisions and contingencies for CMS to review the Access Arrangement are consistent with the Code.

Section 2.28 of the Code allows a Service Provider to propose revisions to an Access Arrangement at any time with no restrictions placed on the Service Provider as to the reasons for proposing revisions. Thus the contingencies set out by CMS for review of the Access Arrangement are, for all practical purposes, just declaratory. CMS could propose revisions to the Access Arrangement in response to any of these contingencies even if they were not stated in the Access Arrangement. However, notwithstanding the ability of CMS to propose revisions to the Access Arrangement, any proposed revisions are subject to assessment and approval by the Regulator.

The Regulator also gave consideration to whether it was necessary for the Access Arrangement to define specific major events that trigger an obligation on the Service Provider to submit revisions prior to the Revisions Submission Date, in accordance with section 3.17 of the Code. In this regard, the Federal Government's proposed changes to company taxation are relevant. The proposed taxation reforms may reduce the taxation liabilities of CMS and consideration will need to be given to the resultant savings being passed on in lower tariffs. The Regulator considers that provision should be made for review of the Access Arrangement in the event of changes to company taxation as currently proposed by the Federal Government. Required amendments to the Access Arrangement are as follows.

Amendment 15
Section 12 of the Access Arrangement should be amended to make provision for a review of the Access Arrangement to be triggered by changes to company taxation arrangements, including changes to the rate of corporate income tax.

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.

The Access Arrangement for the Parmelia Pipeline addresses several matters outside the scope of sections 3.1 to 3.20 of the Code. These matters relate principally to requirements and procedures for the lodgement of Access Requests and entering into a Service Agreement.

In considering these matters, the Regulator took into account the factors listed in section 2.24 of the Code. In view of these factors, the Regulator considers the following amendments are necessary to make the Access Arrangement more reasonable.

Amendment 16

Section 6.6 of the Access Arrangement should be amended to provide for an Access Request to comprise an irrevocable offer only where CMS imposes no conditions on delivery of the requested Service, or where the Prospective User indicates acceptance of any Conditions imposed by CMS.

Amendment 17

Section 6.6 and/or section 6.14 of the Access Arrangement should be amended to remove contradictory provisions relating to the time at which an Access Request becomes an irrevocable offer.

Amendment 18

Section 6.8 of the Access Arrangement should be amended to limit the scope of additional information able to be required by CMS to the information requirements listed in respect of an Access Request in 6.1, 6.2 or 6.4 of the Access Arrangement, or to the information requirements specified in the Information Package compiled and maintained in accordance with section 5.1 of the Code.

Amendment 19

Section 6.13 of the Access Arrangement should be deleted. This section provides for CMS to refuse consideration of an Access Request if CMS considers that the Access Request has been lodged for reasons which are vexatious, frivolous or anti-competitive.

Amendment 20

Section 7.3 of the Access Arrangement should be amended to provide for defined events such as including installation and commissioning of Enhanced Facilities or third party equipment, process facilities or infrastructure, to be required only as condition subsequent to entering into a Service Agreement.

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 and other Services.

CMS has proposed Reference Tariffs for two Reference Services: the Firm Extended Service and the Interruptible Extended Service. In accordance with the principles established by the Code, CMS used a price path methodology for the determination of Reference Tariffs. With this approach, a series of Reference Tariffs are determined in advance for the Access Arrangement Period. The Reference Tariffs follow a path that is 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 Operating Expenditure;
- estimation of an appropriate Rate of Return;
- specification of a Depreciation Schedule;
- determination of Total Revenue, a cost/revenue allocation across services, and Reference Tariffs; and
- specification of Incentive Mechanisms.

The Regulator considered the Reference Tariffs proposed by CMS 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

CMS adopted a Depreciated Optimised Replacement Cost (DORC) methodology as the primary basis for the determination of the Initial Capital Base for the Parmelia Pipeline.

CMS estimated the Optimised Replacement Cost (ORC) of the pipeline to be in the range $170 million to $253 million, estimated as the sum of ORC of the main pipeline

($157 million to $240 million), the value of other capital assets ($9 million), and the value of working capital ($4.27 million).

The range of ORC values and a range of values for asset life were applied as input parameters into a Monte Carlo simulation to determine a probabilistic estimate of the DORC. The simulation used triangular probability distributions for parameters of ORC and asset life, based around most-likely values of $210 million for the ORC (ranging from $170 million to $253 million) and 60 years for asset life (ranging from 42 to 80 years). The probabilistic estimate of the DORC was not provided in the Access Arrangement, but was provided and made public in response to a subsequent request for information. The estimate indicated a most likely DORC value of approximately $114 million, with a range of estimates of approximately $60 million to $160 million.

In assessing the value of the Initial Capital Base proposed by CMS, 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 Parmelia Pipeline. In addition, the Regulator critically evaluated the DORC valuation undertaken by CMS.

The Regulator considers that a DORC valuation methodology is not appropriate for valuing the Initial Capital Base for the Parmelia Pipeline. Rather, the Regulator considers that an Optimised Deprival Value methodology is appropriate. In accordance with provisions of the Code, however, a DORC value still comprises the maximum value that may be ascribed to the Initial Capital Base by an Optimised Deprival Value methodology.

Lower and upper bounds on an acceptable value for the Initial Capital Base are an Optimised Deprival Value, calculated from throughputs and tariffs of current contracts, and a DORC value, respectively. On the basis of the information available to the Regulator at the time of drafting of this Draft Decision, the acceptable range of values for the Initial Capital Base is considered to be $36.6 million to $65.8 million.

In nominating a reasonable value for the Initial Capital Base within the acceptable range, the Regulator gave consideration to the interests of CMS and Users, including CMS's expectations of market growth for the pipeline and the tariffs that will arise from the particular values assigned to the Initial Capital Base. The Regulator has concluded that a value of $62.5 million is acceptable on the basis that it allows for expectations of market growth to be reflected in the asset value while not resulting in an increase in tariffs above the average tariffs under existing contracts. However, this value will only be accepted by the Regulator if the Access Arrangement is amended to include a Redundant Capital Policy that provides for the Capital Base to be reduced at the end of the Access Arrangement Period if expectations of market growth are not realised.

In view of the above, the Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of valuation of the Initial Capital Base. Required amendments to the Access Arrangement are as follows.

Amendment 21 The value of the Initial Capital Base used for the purposes of calculating Reference Tariffs should be altered to a value of $62.5 million, including a working capital component of $0.5 million.

Amendment 22

The Access Arrangement should be amended to include a Redundant Capital Policy that provides for the Capital Base to be reduced at the end of the Access Arrangement Period if the expectations of market growth are not realised.

Capital Expenditure

CMS provided projections of Capital Expenditure for the Access Arrangement Period with indications in the Access Arrangement Information that the expenditure is to be for replacement of miscellaneous capital equipment, enhancements of peripheral assets, utility systems and equipment. A further breakdown of capital expenditure was provided to the Regulator on a confidential basis.

The Regulator made an assessment of the forecast Capital Expenditure on the basis of the confidential breakdown of expenditure provided by CMS. There were three principal issues of concern in respect of the expenditure forecast.

Firstly, forecast expenditure relating to compressor stations, some proportion of SCADA upgrades and electronic communications are linked to projected increases in pipeline throughput to 86 TJ/day for the entire period of the access arrangement, an increase of approximately 187 percent over current throughput. The Regulator considers this projected throughput to be unsubstantiated.

Secondly, the forecast Capital Expenditure included expenditure on construction of new laterals without the necessary justification as required by the Code. The Regulator considers that the projections of capital expenditure do not satisfy the requirements of the Code for such expenditure to be considered in the determination of Reference Tariffs.

Thirdly, the forecasts of Capital Expenditure make no provision for improvements in productivity and efficiency over the Access Arrangement Period. The forecast Capital Expenditure includes a "base" amount of $250,000 per annum, relating mainly to miscellaneous capital equipment. This amount should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

The Access Arrangement is therefore considered to not meet the requirements of the Code in respect of forecasts of Capital Expenditure to be considered in determination of Reference Tariffs. Required amendments to the Access Arrangement are as follows.

Amendment 23

Forecasts of Capital Expenditure should be revised in accordance with reasonable expectations of increased pipeline throughput over the Access Arrangement Period. Capital Expenditure required to accommodate pipeline throughput in excess of a reasonable expectation should be regarded as Speculative Investment within the meaning of section 8.19 of the Code and for the purposes of considering Capital Expenditure in the determination of Reference Tariffs.

Amendment 24

Expenditure on new lateral pipelines should be excluded from the forecasts of Capital Expenditure unless such expenditure is demonstrated to satisfy conditions set out in section 8.16(b) of the Code.

Amendment 25

Forecast Capital Expenditure includes a "base" amount of $250,000 per annum, relating mainly to miscellaneous capital equipment. This amount should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

Operating Expenditure

CMS provided projections of Operating Expenditure for the Access Arrangement Period with indications in the Access Arrangement Information that the expenditure is to be for:

- field controllable expenditure, comprising the Operating Expenditure related to routine day to day operations;
- major expense job expenditure, comprising the Operating Expenditure related to non-routine, intermittent, and/or special one off activities; and
- marketing and overhead costs.

A further breakdown of costs was provided to the Regulator by CMS on a confidential basis.

The Regulator made an assessment of the forecast Operating Expenditure on the basis of the confidential breakdown of expenditure provided by CMS. The Regulator is satisfied that the forecast Operating Costs are reasonable with the exception of some costs (related to additional administrative and operational staff and equipment overhaul) that are linked to the high throughput projection of CMS for the Access Arrangement Period. CMS has projected increases in pipeline throughput to 86 TJ/day for the entire period of the access arrangement, an increase of approximately 187 percent over current throughput. The Regulator considers this projected throughput to be unsubstantiated.

The Regulator notes that, as with Capital Expenditure, the forecast Operating Expenditure makes no provision for improvements in productivity and efficiency over the Access Arrangement Period. The forecast Operating Expenditure includes base amounts of field controllable expenditure and major expense job expenditure. These amounts should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

In view of the above, the Access Arrangement is considered to not meet the requirements of the Code in respect of forecasts of Operating Expenditure to be considered in determination of Reference Tariffs. Required amendments to the Access Arrangement are as follows.

Amendment 26

Forecasts of Operating Expenditure should be revised in accordance with reasonable expectations of increased pipeline throughput over the Access Arrangement Period.

Amendment 27

The forecast Operating Expenditure includes base amounts of field controllable expenditure and major expense job expenditure. These amounts should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

Rate of Return

CMS determined a value of the Rate of Return as an estimated Weighted Average Cost of Capital (WACC) for the Parmelia Pipeline as a stand-alone project.

Capital Asset Pricing Model (CAPM) theory was used to derive a WACC value for the Parmelia Pipeline. The WACC value was derived as a probabilistic estimate using the Monte Carlo simulation technique with triangular probability distributions for input variables. The probabilistic estimate of the WACC (pre–tax, real) has a most likely value of 16 percent, within a range of approximately 10 to 23 percent. CMS did not use this probabilistic estimate of the WACC in the stochastic calculation of Reference Tariffs, but used an arbitrarily specified triangular probability distribution for the WACC with a most likely value of 16 percent, a minimum value of 13.5 percent and a maximum value of 18.6 percent.

In assessing the derivation of the WACC by CMS, the Regulator obtained advice from Macquarie Bank Limited (Macquarie) and the Allen Consulting Group (ACG). This advice comprised:

- a review of the methodologies employed by CMS and the reasonableness of the values adopted for specific variables, and suggestion of alternative values of variables where appropriate;

- re–calculation of the cost of capital applicable to the Parmelia Pipeline based on values of input variables determined to be appropriate.

On the basis of the advice provided by Macquarie and ACG, the Regulator determined a value of 8.3 percent (pre–tax, real) to be an appropriate WACC for the Parmelia Pipeline.

In view of the difference between the Regulator's determination of the WACC and that determined by CMS, the Access Arrangement is considered to not meet the requirements of the Code in respect of establishing the Rate of Return. Required amendments to the Access Arrangement are as follows.

Amendment 28

The WACC estimate used to specify a Rate of Return should be amended to more accurately reflect current financial-market parameters. Any variation from the Regulator's assessment of an appropriate WACC of 8.3 percent (pre–tax, real) would need to be justified to the satisfaction of the Regulator.

Depreciation Schedule

A Depreciation Schedule is the basis upon which the assets that form part of the Capital Base are depreciated for the purposes of determining a Reference Tariff.

The Depreciation Schedule proposed by CMS involves annual calculation of the value of the Capital Base by depreciating the Initial Capital Base by the straight line method and adding the value of capital expenditure over the same period. The Capital Base is also adjusted annually for inflation by a consumer price index (CPI) escalator calculated from the Consumer Price Index (All Groups for Perth, Western Australia) as first published for each quarter by the Australian Bureau of Statistics.

For the purposes of depreciation, CMS assumed a single triangular probability distribution for the economic life for all assets making up the pipeline. This did not reflect a weighted average asset life across asset classes, but rather was an "approximate" value selected by CMS.

In assessing the proposed methodology for depreciation of the Capital Base, the Regulator considered two matters:

- the proposal to depreciate assets by the straight line method; and
- the proposal to depreciate assets based on an assumption of a single value for the remaining life of all assets making up the pipeline.

In view of the above matters, the Access Arrangement is considered to not meet the requirements of the Code in respect of the Depreciation Schedule. Required amendments to the Access Arrangement are as follows.

Amendment 29

The Depreciation Schedule should be altered such that the part of the value of the Initial Capital Base that is in excess of the value attributable to existing contracts is depreciated only as the expectations of market growth are realised.

Amendment 30

The methodology for depreciation of new Capital Expenditure should be altered to give greater recognition to different economic lives for the various assets or groups of assets.

Total Revenue, Cost/Revenue Allocation and Reference Tariffs

The Code addresses the determination of Reference Tariffs in terms of two principal steps:

- determination of an amount of Total Revenue required to cover all costs associated with providing gas transportation services, including depreciation and a return on capital;
- allocation of the Total Revenue across services, including both Reference and Non Reference Services, and determination of the Reference Tariffs that will return the share of Total Revenue allocated to Reference Services.

CMS did not document each of these steps separately. Instead, the steps were subsumed in a stochastic model used to determine Reference Tariffs. In assessing CMS's tariff determination, the Regulator interpreted the general procedure for allocating Total Revenue and determining Reference Tariffs to be as follows.

- An estimate was made of total pipeline capacity and a division of this capacity into capacity available for the provision of firm services (firm capacity) and capacity available for the provision of interruptible services (interruptible capacity). CMS used a probabilistic estimate of total pipeline capacity as a triangular probability distribution with a minimum value of 80 TJ/day, a typical value of 86 TJ/day and a maximum capacity of 91 TJ/day. This was assumed to be divided into firm and interruptible capacity in proportions of 74 percent and 26 percent respectively.

- An assumption was made that all services provided under existing capacity utilise firm capacity with a load factor of 100 percent. The projected annual throughputs for services under existing contracts over the Access Arrangement Period were subtracted from the firm capacity of the pipeline to derive a residual firm capacity able to be utilised for additional services. Projected annual throughputs for existing contracts are indicated in section 6.2.2 of the Access Arrangement Information as 29.0 TJ/day in 1999, 29.6 TJ/day in 2000, and 30.2 TJ/day in 2001 to 2003.

- An assumption was made that all residual firm capacity and interruptible capacity would be utilised for the provision of the Firm Extended Service and the Interruptible Extended Service, respectively, with a load factor of 90 percent.

- As the load factor for the Firm Extended Service and Interruptible Extended Service is less than 100 percent, there is residual capacity available for provision of Spot Services. An assumption was made of Reference Spot Services being provided with a probabilistic estimate of throughput as a triangular distribution with a minimum value of 0 TJ/day, a typical value of 5 TJ/day and a maximum value of 15 TJ/day.

- The Total Revenue for the pipeline was specified as being returned through:

  – revenue from services provided under existing contracts, as specified in section 7.5.4.5 of the Access Arrangement Information;

  – revenue from Spot Reference Services determined as the throughput of Spot Services multiplied by a tariff specified as an exogenous random variable with a triangular probability distribution with minimum value \$0.15/GJ, typical value of \$0.25/GJ and maximum value of \$0.50/GJ;

  – revenue from a reservation component of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, levied against all residual firm capacity and all interruptible capacity of the pipeline; and

  – revenue from a commodity component of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, levied against throughput for these services assuming the 90 percent load factor.

- The relativities of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, and the reservation and commodity components of these tariffs, were specified as –

	Reservation Charge	Commodity Charge	Total Tariff
Firm Extended Service	(0.8)*x*	(0.2)*x*	*x*
Interruptible Extended Service	(0.8)(0.9)*x*	(0.2)(0.9)*x*	(0.9)*x*

- A "goal seeking" algorithm was used to determine a value for the Reference Tariff for the Firm Extended Service (*x* in the table above), and hence for other Reference Tariffs for extended Reference Services, that for a given set of input variable values determines a Total Revenue that returns a net present value of the Pipeline over the Access Arrangement Period of zero with a discount rate equal to the WACC. This was undertaken as a Monte Carlo simulation with the probabilistic estimates of input variables.

- The Monte Carlo simulation methodology returned a probabilistic estimate of the Reference Tariff for the Firm Extended Service (and hence the Reference Tariff for the Interruptible Extended Service and the reservation and commodity components of these tariffs) that will return a net present value of the pipeline equal to zero. The probabilistic estimate of the Reference Tariff for the Firm Extended Service was characterised by a mean of $0.83/GJ with a range of approximately $0.50/GJ to $1.30/GJ. CMS selected the mean value as the Reference Tariff for the Firm Extended Service, and hence set the Reference Tariffs and commodity and reservation components of these tariffs as follows.

	Reservation Charge	Commodity Charge	Total Tariff
Firm Extended Service	$0.664/GJ	$0.166/GJ	$0.83/GJ
Interruptible Extended Service	$0.5976/GJ	$0.1494/GJ	$0.747/GJ

- CMS propose that the Reference Tariffs be inflated quarterly by a CPI Escalator.

In assessing the Reference Tariffs proposed by CMS, the Regulator undertook two evaluations:

- a verification of Reference Tariff calculations undertaken by CMS using both a stochastic methodology and a deterministic calculation;

- calculation of Reference Tariffs using values of input variables, an allocation of costs/revenues across services, and a depreciation schedule considered by the Regulator to be reasonable on the basis of information provided to the Regulator by CMS.

On the basis of verification calculations, the Regulator is satisfied that the modelling results of CMS are reproducible.

In assessing the tariff determination proposed in the Access Arrangement, the Regulator re-calculated the Reference Tariffs based on changes to the calculation methodology and the values of input variables discussed in this chapter of the Draft Decision. Insufficient information was provided by CMS for the Regulator to be fully satisfied as to values assigned to the input variables and various aspects of the tariff calculation methodology. The Regulator's re-calculation of tariffs provides an indication of the tariffs that could be considered reasonable on the basis of the information currently made available by CMS in the Access Arrangement and on a confidential basis to the Regulator.

In the re-calculation of reference tariffs the Regulator contemplated two scenarios of throughput and valuation of the Initial Capital Base:

i. an Initial Capital Base of $36.6 million and a constant throughput over the Access Arrangement Period around 30 TJ/day; and

ii an Initial Capital Base of $65.8 million (ie. the upper bound on the Initial Capital Base as set equal to a DORC value for a 60 TJ/day pipeline) and an increasing throughput over the Access Arrangement Period from 40TJ/day in 2000 to 60 TJ/day in 2004.

An Initial Capital Base of $36.6 million, based on projections of future throughput of around 30 TJ/day, resulted in an indicative tariff of $0.58/GJ. The tariff calculation for the Initial Capital base of $65.8 million and throughput increasing to 60 TJ/day over the Access Arrangement Period returned a tariff of $0.57/GJ.

The Regulator considers that CMS should be provided with the opportunity to expand the market for services on the Parmelia Pipeline and have this reflected in the Capital Base, subject to, *inter alia,* the higher value of the Initial Capital Base not giving rise to Reference Tariffs above the current average tariff for the Parmelia Pipeline. On the basis of the Initial Capital Base of $62.5 million and the increase in throughput to 60 TJ/d, the Regulator calculated a Reference Tariff of $0.55/GJ over the Access Arrangement Period.

The Regulator therefore considers a reasonable indicative Reference Tariff for the Parmelia Pipeline to be $0.55 /GJ. The breakdown of this indicative tariff into reservation and commodity charges for the Firm Extended Service and Interruptible Extended Service is as follows.

Regulator's Estimated Tariff: Initial Capital Base of $62.5 million			
	Reservation Charge	**Commodity Charge**	**Total Tariff**
Firm Extended Service	$0.44/GJ	$0.11/GJ	$0.55/GJ
Interruptible Extended Service	$0.40/GJ	$0.10/GJ	$0.50/GJ

The estimated tariffs do not incorporate the changes to Capital Expenditure and Operating Expenditure that the Regulator concluded were necessary to include a CPI-X incentive

mechanism in the Reference Tariff Policy. When this is undertaken, it is envisaged that the estimated tariff would be marginally lower than those indicated above.

This tariff of $0.55/GJ (minus a correction arising from implementation of a CPI-X Incentive Mechanism) is considered to represent a reasonable balance of interests between the Service Provider and Users for the following reasons.

- The tariff is close to that which would have been derived from a DORC valuation of the pipeline, and therefore consistent with approaches of other Australian regulators to the setting of tariffs. The Initial Capital Base of $62.5 million determined by the Regulator to be acceptable for the Parmelia Pipeline is equal to 95 percent of the DORC valuation.

- With incorporation of a CPI-X incentive mechanism into the Access Arrangement, tariffs will be lower than otherwise would be the case.

- A tariff of marginally less than $0.55/GJ is consistent with the reasonable expectations of Users that regulation will provide for an overall reduction in tariffs.

In view of the difference in the tariffs proposed by CMS and those considered reasonable by the Regulator, the Access Arrangement is considered to not meet the requirements of the Code in respect of the determination of Reference Tariffs. Required amendments to the Access Arrangement are as follows.

Amendment 31

Assumptions of pipeline throughput should be amended to provide for a maximum throughput of 60 TJ/day by the end of the Access Arrangement Period.

Amendment 32

Costs/revenue should be allocated across all services in proportion to forecasts of pipeline capacity to be used for the provision of each type of service. For the purposes of determining Reference Tariffs, this allocation of costs/revenue is equivalent to an assumption that all Users, including Users under existing contracts, are paying the Reference Tariffs.

Amendment 33

The proposed 10 percent lower tariff for the Interruptible Extended Service should be justified by either lower costs attributable to the Interruptible Extended Service than for the Firm Extended Service, or by the lower tariff constituting a prudent discount within the meaning of section 8.43 of the Code.

Amendment 34

The tariff calculation should be revised to ensure consistent treatment of inflation. In particular, the value of the Capital Base should be treated in real terms consistent with the treatment of other input variables to the tariff calculation.

Amendment 35

Inflation adjustments of tariffs should be based the eight capital city, all-groups CPI measure as published by the Australian Bureau of Statistics.

Incentive Mechanism

The Code (section 8.44) states that a 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.

CMS proposed that the price path approach adopted in the determination of Total Revenue provides an incentive to seek efficiency improvements and reduce costs through allowing CMS to maintain Reference Tariffs at the predetermined level and capture any benefits from the cost reductions. CMS does not propose any sharing of benefits with Users during the Access Arrangement Period.

The Regulator considers that CMS should include an incentive mechanism in the Reference Tariff Policy that addresses the objectives set out in section 8.46 of the Code. The Incentive Mechanism may provide for sharing the benefits of efficiency gains and cost savings with users either within the Access Arrangement Period or in Access Arrangement Periods subsequent to the Period in which the efficiency gains were made, or both.

Currently, the Access Arrangement is considered to not meet the requirements of the Code in respect of an Incentive Mechanism. Required amendments to the Access Arrangement are as follows.

Amendment 36
The Incentive Mechanism should be amended to provide for sharing the benefits of efficiency gains and cost savings with Users either within the Access Arrangement Period or in Access Arrangement Periods subsequent to the Period in which the efficiency gains were made, or both. In specifying the Incentive Mechanism, CMS should outline an acceptable CPI-X framework for accommodating inflation and efficiency gains in the determination of Reference Tariffs.

FEES AND CHARGES

The Access Arrangement provides for CMS to levy a range of fees and charges on Users and Prospective Users of services provided in respect of the Parmelia Pipeline. These fees and charges comprise:

- a Service Request Administration Fee levied on Prospective Users for lodgement of an Access Request;
- quantity variation charges, levied on Users in certain circumstances where quantities of gas received at a Receipt Point and delivered to a Delivery Point differ for the quantities specified in the relevant Service Agreement and/or nominations by the User;

- charges levied on Users to recoup costs incurred by CMS for unaccounted for gas and system use gas; and

- charges levied on Users to recoup costs arising from Statutory Charges incurred by CMS.

These fees and charges comprise a pecuniary impost on Users and Prospective Users in addition to service tariffs. For this reason, the Regulator considered that an assessment of fees and charges was necessary in evaluating the Access Arrangement. Furthermore, matters relating to fees and charges were raised in several public submissions on the Access Arrangement and the Regulator is obliged to consider these submissions.

In considering the fees and charges arising in respect of a Service Agreement for a Reference Service, the Regulator gave attention to the requirements of section 3.6 of the Code that requires that the terms and conditions for provision of Reference Services must, in the Regulator's opinion, be reasonable. In respect of any fees and charges levied otherwise than under a Service Agreement for a Reference Service, the Regulator gave attention to matters to be taken into consideration in approving a proposed Access Arrangement, as set out in section 2.24 of the Code.

Service Request Administration Fee

The Access Arrangement provides for CMS to charge a fee of $10,000 for lodgement of an Access Request by a Prospective User with CMS. This Service Request Administration Fee is non-refundable except for (i) at the discretion of CMS; or (ii) where the Prospective User is notified that no queue exists for the service requested and CMS and the Prospective User do not enter into a Service Agreement.

In assessing whether the charging of the Service Request Administration Fee is a reasonable practice on the part of CMS, the Regulator considered two matters.

i. Whether the fee reflects, or is likely to reflect, costs reasonably incurred by CMS in processing an Access Request.

ii. The practice of other Service Providers in respect of similar fees.

The charging of a Service Request Administration Fee was found to be inconsistent with both the recovery of reasonable costs and common industry practice. In particular, where costs are incurred by CMS in processing an Access Request, the Code provides for the recovery of these costs from the Prospective User without the necessity of an up-front fee. The Access Arrangement is therefore considered to <u>not</u> be reasonable in respect of this fee, and thus to <u>not</u> meet the requirements of the Code. Required amendments to the Access Arrangement are as follows.

Amendment 37 Sections 6.1 and 6.16 of the Access Arrangement should be deleted to remove provision for lodgement of an Access Request to be conditional on payment of a Service Request Administration Fee.

Statutory Charges

The General Terms and Conditions require Users to pay to CMS an amount equal to statutory charges such as financial institutions duty which CMS is liable to pay.

The Regulator considers that statutory charges such as financial institutions duty should be regarded as a normal business cost and incorporated into estimates of Operating Expenditure for the purposes of determining tariffs and, in general, there is no commercial justification for passing these costs on to Users as a charge in addition to service tariffs. However, the Regulator accepts representation from CMS that the separate recovery of statutory charges is an established practice in their current business. Consequently the Regulator will not require amendments to the Access Arrangement.

Quantity Variation Charges

The General Terms and Conditions provide for CMS to levy charges (Quantity Variation Charges) on Users in certain circumstances where Users do not manage the receipt of gas into the pipeline and/or the delivery of gas from the pipeline in accordance with relevant conditions of Service Agreements and/or Users' daily nominations of intended gas transportation.

In assessing the reasonableness of the quantity variation charges proposed by CMS, the Regulator gave consideration to common practice of the gas transportation industry in respect of such charges. The schedule of Quantity Variation Charges proposed by CMS for the Parmelia Pipeline differ substantially from the charges provided for in other pipeline Access Arrangements in several respects, as follows.

- CMS provide for Quantity Variation Charges to be applied in a greater range of circumstances than is common practice in the industry.

- CMS has made no explicit provision for grace periods in which a User may correct gas imbalances before Quantity Variation Charges will apply.

- The Quantity Variation Charges of CMS are substantially higher than would be applied by other Service Providers where the magnitude of a quantity imbalance is more than about 20 percent of the benchmark quantity from which the imbalance is calculated. The charges applicable under other Access Arrangements examined for the purposes of this Draft Decision are in the range of 100 to 350 percent of the relevant service tariff. The proposed charges of CMS may be substantially in excess of these rates for large quantity imbalances.

The Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of the proposed Quantity Variation Charges. Required amendments to the Access Arrangement are as follows.

Amendment 38 Section 10 and schedule 2 of the General Terms and Conditions should be amended to remove provision for CMS to apply Quantity Variation Charges in respect of Hourly Overruns and Maximum Flow Rate Overruns.

Amendment 39

Section 10 and schedule 2 of the General Terms and Conditions should be amended to provide Users with a grace period to correct gas imbalances before quantity variation charges may be applied in respect of the imbalances.

Amendment 40

Section 10 and Schedule 2 of the General Terms and Conditions should be amended to provide for maximum rates of Quantity Variation Charges to be 350 percent of the service tariff for the relevant service per GJ of the quantity variation.

Charges for Unaccounted for Gas and System Use Gas

The General Terms and Conditions provide for CMS to charge users for System Use Gas as an additional charge to transport tariffs. The System Use Gas Charge is proposed to be determined on the basis of gas prices reasonably nominated by CMS, which may vary from time to time.

In considering the reasonableness of CMS's proposal to charge Users for System Use Gas, the Regulator examined relevant practices in other gas transmission pipelines. The proposal by CMS to purchase System Use Gas and pass the cost on to users as a System Use Gas Charge is consistent with common industry practice and is therefore considered reasonable. Notwithstanding this, the Regulator considers that a cost reference or benchmark for System Use Gas Charges should be provided rather than having these charges determined fully at the discretion of CMS.

The Access Arrangement is considered to not meet the requirements of the Code in respect of the proposed System Use Gas Charges. Required amendments to the Access Arrangement are as follows.

Amendment 41

Section 15 of the General Terms and Conditions should be amended to establish a reasonable benchmark for determining costs passed on to Users as a System Use Gas Charge.

PART B

SUPPORTING INFORMATION

CONTENTS

1 INTRODUCTION

Part B of this Draft Decision provides background and supporting information to the Draft Decision of the Regulator, as outlined in Part A.

In coming to 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 as set out in sections 3 or 8 of the Code, whether the inclusion and substance of these matters is reasonable with reference to the interests of the Service Provider, Users and the general public as provided for in section 2.24 of the Code.

This supporting information 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 result in this sequence not being able to be strictly adhered to while avoiding excessive repetition. The supporting information is thus presented in the following structure.

- 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 Parmelia Pipeline.
- Assessment of matters addressed by the Access Arrangement other than which relate to tariffs, fees and charges (non-tariff matters).
- Assessment of Reference Tariffs proposed by CMS for the Parmelia Pipeline.
- Assessment of fees and charges, other than tariffs, proposed by CMS for the Parmelia Pipeline.
- Response to any additional matters that were raised in public submissions.

2 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 Parmelia Pipeline as submitted to the Regulator by CMS Gas Transportation of Australia. 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
Arbitrator	The Office of the Western Australian Gas Disputes Arbitrator appointed under section 62 and, except in sections 62(2), 65 and 69(1), includes a person acting under section 71 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 without the consent of the Service Provider and without any 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 Reservation Charge	The charge paid by a User to a Service Provider in respect of a contract for gas transportation, that is a fixed charge independent of the quantity of gas actually transported.
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.
Contracted Capacity	The nominal quantity of gas transportation to be undertaken under a service agreement between a User and the Service Provider.

Covered Pipeline	The whole or particular part of a pipeline which is regulated under the Code.
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.
Extensions/ Expansions Policy	A policy that is required to be in the Access Arrangement which sets 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.
Gas Day	For the Parmelia Pipeline, a period of 24 consecutive hours beginning and ending at 0800 Australian Western Standard Time
Grandfathered Contract	A contract for the provision of gas transportation services by CMS, whether or not in conjunction with other services, entered into before the latest date for complying with the ring fencing provisions of the Code.
National Gas Pipelines Access Agreement	A national agreement endorsed by CoAG and sighed by all Australian Heads of State on 7 November 1997 to introduce a national gas pipelines access regime.
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-Reference Services	A service other than a Reference Service, but not including services provided under a Grandfathered Contract.
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 Optimised Replacement Cost of an 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).

Optimised Replacement Cost	Is the minimum cost of replacing or replicating the service potential embodied in the network with modern equipment assets in the most efficient way practicable, from an engineering perspective, given the service requirements.
Parmelia Pipeline	The pipeline system that is the subject of Pipeline Licenses PL1, PL2, PL3, PL5 and PL23 issued under the *Petroleum Pipeline Act 1969 (WA).*
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.
Receipt Point	A point of a pipeline at which the custody of gas is transferred to the Service Provider.
Reference Services	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	Independent Gas Pipelines Access Regulator in Western Australia established under 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.
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.
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.
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.
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.

3 ABBREVIATIONS

AA	Access Arrangement
AAI	Access Arrangement Information
ACCC	Australian Competition and Consumer Commission
bp	Basis points – 1 bp equals 0.01 percentage points.
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
EAPL	East Australian Pipeline Limited
EPCM	Engineering, Procurement, Construction and Management
GJ	Gigajoules (10^9 joules)
GST	Goods and Services Tax
IPART	Independent Pricing And Regulatory Tribunal (New South Wales)
IRR	Internal Rate of Return
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
MDQ	Maximum Daily Quantity
MFR	Maximum Flow Rate
MHQ	Maximum Hourly Quantity
MPa	Megapascal
NPV	Net Present Value
NWSG	North West Shelf Gas Pty Ltd

O*ff*GAR	Office of Gas Access Regulation
OOE	Office of Energy
ORC	Optimised Replacement Cost
ORG	Office of the Regulator General (Victoria)
PJ	Petajoules (10^{15} joules)
SCADA	Supervisory Control and Data Acquisition system
TLPG	Tempered Liquefied Petroleum Gas
TJ	Terajoules (10^{12} joules)
WACC	Weighted Average Cost of Capital
WAPET	Western Australian Petroleum Pty Ltd

4 REGULATORY FRAMEWORK

4.1 THE WESTERN AUSTRALIAN GAS INDUSTRY

This section provides some background information relating to the Western Australian gas industry.

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 per cent of the State's identified energy resources, which will last over 100 years at the current level of production. There are five sedimentary basins in this area, with two of these basins currently producing natural gas for sale – the Northern Perth Basin and the Carnarvon Basin. There are nine producing fields currently supplying natural gas to the domestic market, indicated as follows.

Carnarvon Basin	Northern Perth Basin
North West Shelf	Dongara
Harriet Gas Gathering	Woodada
Tubridgi Onshore Gas	Beharra Springs
Griffin Oil/Gas	
Roller/Skate Oil/Gas	
East Spar	

In 1997/98 a total of 758 PJ of natural gas was produced from the two major basins, comprising 745 PJ from the Carnarvon Basin and 13 PJ from the Perth Basin.

Natural gas is either sold to the domestic market or exported in the form of liquefied natural gas (LNG) and liquefied petroleum gas (LPG).

Gas Pipeline Infrastructure

There are currently 3 major onshore natural gas transmission pipelines in Western Australia – the Dampier to Bunbury Natural Gas Pipeline (DBNGP), the Goldfields Gas Pipeline, and the Parmelia Pipeline.

The Epic Energy owned DBNGP transports gas from the North West Shelf to residential, business and industrial customers in the Geraldton, Perth, Mandurah and Bunbury areas. The main part of the pipeline has an external diameter of 660 mm from Dampier to the Kwinana junction and is 1399 km long. The maximum allowable operating pressure of the main line is

8.48 MPa, and of the line south of Kwinana – 6.9 MPa. The pipeline has nine compressor stations, which are all operational with a total of 13 compressor units.

The Goldfields Gas Pipeline runs 1380km from the North West of Western Australia to the Northern and Eastern Goldfield areas and is owned by the Goldfields Gas Transmission Pty Ltd, a private consortium comprising Southern Cross Pipelines and Duke Energy. The Goldfields Gas Pipeline has a current capacity of around 88 TJ/d, which can reach 164 TJ/d when 8 compressors are installed.

The Parmelia Pipeline, previously the Western Australian Natural Gas (WANG) pipeline, was commissioned in 1971 and transports gas from various fields in the North Perth basin to a number of major industrial customers in the South West. The pipeline is owned by CMS Energy Corporation and is operated by an Australian division named CMS Gas Transmission of Australia (CMS). The Parmelia Pipeline is a 416 km system running from Dongara to Pinjarra. The internal diameter of the main pipeline is 356 mm with laterals ranging in size from 100 mm to 200 mm. The system's maximum allowable operating pressure (MAOP) is 7.48 MPa from Dongara to Caversham. Between Caversham and Kwinana the MAOP is 5.61 Mpa and through to Pinjarra the MAOP is 7.93 MPa. The pipeline is capable of delivering up to 120 TJ/day, including transport of gas from Dongara, the North West Shelf (via an interconnection with the DBNGP), the Beharra Springs field and the Woodada field.

Gas Consumption

The majority of gas supplied to the local market comes from fields in the offshore Carnarvon basin. The major purchasers of gas are listed below.

Gas Field	Gas Producer	Gas Purchaser
Ongoing Sales		
Cossack/ Goodwyn/ North Rankin/ Perseus/ Wanaea	Woodside Petroleum Ltd	Alcoa AlintaGas BHP Minerals BP Oil Hamersley Iron Robe River Iron Associates Western Power
Harriet/ Tanami/ Campbell/ Rosette/ Sinbad/ Alkimos/ East Spar	Apache Energy Pty Ltd	AGL Alcoa AlintaGas BHP Minerals Epic Energy Boral Energy Centaur Mining and Exploration Great Central Mines Normandy Mining Homestake Mining Western Power Wiluna Mines Western Mining Corporation
Griffin/ Chinook / Scindian	BHP Petroleum (Australia) Pty Ltd	Alcoa Boral Energy

Gas Field	Gas Producer	Gas Purchaser
Tubridgi	Boral Energy Resources	Alcoa AlintaGas
Beharra Springs	Boral Energy Resources	Alcoa
Dongara	Arc Energy	Alcoa Midland Brick
Roller/ Skate/ Saladin/ Crest/ Yammaderry/ Cowle	Western Australian Petroleum Pty Ltd (WAPET)	Alcoa Midland Brick
Mondarra Gas Storage	CMS Energy	–
Woodada	Phoenix Energy Pty Ltd	Midland Brick Whitemans Brick
Committed Future Sales		
Harriet/ East Spar	Apache Energy Pty Ltd	South West Cogen Joint Venture Wesfarmers CSBP

The use of natural gas in Western Australia includes gas used as fuel for power generation, direct (final) use of gas including at the field and for pipeline transmission and as feedstock for the production of LNG and other products. The use of natural gas 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.

4.2 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, amongst other things, 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 transmission and distribution pipelines in Australia. This occurred through the signing of the National Gas Pipelines Access Agreement (the Agreement), which amongst other things records each jurisdiction's commitment in relation to implementing the national regime and maintaining its integrity.

Under the Agreement, key commitments include:

- the implementation of the national regime through an "application of laws" model (with the exception of Western Australia which has given effect to the regime through complementary legislation);
- approval of a Government's legislation by all other participating governments prior to the submission of the legislation to parliament by any government;
- South Australia is the lead legislator;

- governments will not amend their legislation without gaining the approval of all other governments;

- governments will repeal, amend or modify any other legislation that is inconsistent with the operation of the national regime of the Agreement (in the case of Western Australia this has meant a number of consequential changes to other legislation);

- each State and Territory will submit the national regime, as it is applied in their jurisdiction, to the NCC for certification as an effective access regime under Part IIIA of the *Trade Practices Act 1974*; and

- transitional arrangements and derogations in relation to the national regime are allowed if they have been approved by all governments and are specifically identified in the relevant government's legislation.

The legislation put in place by Western Australia to implement the Access Regime has an essentially identical effect to the *Gas Pipelines Access (South Australia) Act 1947*, with the exception of derogations permitted under the Agreement and consequential amendments. The Western Australian Act has broader coverage in some areas than the South Australian Act, as noted where appropriate below. The broader application of the Western Australian Act is consistent with the Agreement and does not detract from the effectiveness of the Access Regime.

4.3 LEGISLATION

Prior to the commencement of the *Gas Pipelines Access (WA) Act 1998*, 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 Dampier to Bunbury Natural Gas Pipeline, 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 Dampier to Bunbury Natural Gas Pipeline, the Goldfields Gas Pipeline and the AlintaGas distribution systems are deemed to comply with the Code until 31 December 1999.

4.4 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 applies the *Gas Pipelines Access (WA) Law*.

(ii) Schedule 1, which provides the legal framework for the operation of the Access Regime.

(iii) Schedule 2, which contains the National Third Party Access Code for Natural Gas Pipeline Systems (the Code) that contains the detailed access principles that are to comprise the Access Regime.

(iv) Schedule 3, which contains amendments to certain Acts.

Schedules 1 and 2 are referred to as the *Gas Pipelines Access (WA) Law*.

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 he/she considers 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 he/she 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 (ie 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).

5 ASSESSMENT PROCESS

5.1 OVERVIEW

Where a Pipeline is Covered, the Code requires a Service Provider to establish an Access Arrangement to the satisfaction of the Relevant Regulator for that Covered Pipeline. An Access Arrangement must be submitted to the Relevant Regulator for approval.

The Relevant Regulator may approve an Access Arrangement only if the Access Arrangement satisfies the minimum requirements set out in section 3 of the Code. The Relevant 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 Relevant Regulator has a broad discretion to refuse to accept an Access Arrangement. If section 3 permits a range of outcomes on a particular issue (for example, any Revisions Commencement Date is permitted), the Relevant Regulator may reject an outcome proposed by the Service Provider which is within the permitted range and require a particular outcome be included in the Access Arrangement (for example, a particular Revisions Commencement Date).

An Access Arrangement submitted to the Regulator for approval must be accompanied by Access Arrangement Information. Access Arrangement Information 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 whereby a compulsory Access Arrangement is 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 its own Access Arrangement.

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

The particular components of the assessment process for the Access Arrangement submitted for the Parmelia Pipeline are described below.

5.2 SUBMISSION OF THE ACCESS ARRANGEMENT AND SUPPORTING INFORMATION

Documentation submitted to the Regulator by CMS on 7 May 1999 was as follows.

- Parmelia Pipeline Access Arrangement, incorporating General Terms and Conditions (as Appendix 3 of the Access Arrangement).

- Parmelia Pipeline Access Arrangement Information.

Further documentation forming part of the Access Arrangement was subsequently submitted to the Regulator, as follows.

- Parmelia Pipeline Access Arrangement Information: Additional Information (21 June 1999).

- Parmelia Pipeline Access Arrangement Information: Additional Information (30 June 1999).

Copies of these documents are available from the Office of Gas Access Regulation or may be downloaded from the O*ff*GAR web site (www.offgar.wa.gov.au).

5.3 FIRST–ROUND PUBLIC CONSULTATION

O*ff*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 241 interested parties (12 May 1999).

- Placing of the notice calling for submissions on the O*ff*GAR web site (15 May 1999).

- Placing of advertisements calling for public submissions in *The West Australian* and the *Weekend Australian* (15 May 1999).

An issues paper was prepared by O*ff*GAR and sent to interested parties on 20 May 1999. The issues paper was also made available from the O*ff*GAR office and the O*ff*GAR web site. A closing date for receipt of public submissions was set at 4pm 14 June 1999. Two extensions to this closing date were subsequently made through notices placed on the O*ff*GAR web site, with extensions made to 4pm 5 July 1999 and to 4pm 9 July 1999.

Documentation submitted by CMS for the proposed Access Arrangement was made available from the O*ff*GAR office and on the O*ff*GAR web site.

Submissions were received from the following organisations.

- AlintaGas (5 July 1999)
- Boral Energy (5 July 1999)
- CMS Gas Transmission of Australia (30 June 1999)
- Combustion Air Pty Ltd (9 June 1999)
- Mobil Exploration & Producing Australia Pty Ltd (14 June 1999)
- North West Shelf Gas (1 July 1999)
- Office of Energy – Western Australia (two submissions) (14 June 1999; 8 July 1999)
- Phoenix Energy Pty Ltd (14 June 1999)
- Western Power (11 June 1999)
- Treasury Department – Western Australia (9 July 1999)

The contents of submissions are summarised and addressed in Chapters 6 to 9 of this Draft Decision, relating the issues raised to specific matters addressed by the Access Arrangement.

5.4 DRAFT DECISION

This document comprises the Regulator's Draft Decision in respect of the Access Arrangement submitted by CMS. 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 have to be made to the Access Arrangement before the Regulator will approve it.

The objectives of a draft decision are firstly to provide opportunity for the Service Provider to make any amendments to the Access Arrangement deemed necessary by the Regulator prior to a final decision on acceptance or rejection of the Access Arrangement, and secondly to provide an opportunity for public comment on the Regulator's assessment of the Access Arrangement.

5.5 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 from O*ff*GAR and the document is also available for downloading from the O*ff*GAR web site.

The closing date for receipt of submissions on the Draft Decision is Friday 12 November 1999.

5.6 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 Relevant 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 Relevant Regulator in its draft decision.

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 and via O*ff*GAR's web site.

5.7 ADDITIONAL AMENDMENTS TO THE ACCESS ARRANGEMENT

If 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 Final Decision, the Regulator will approve the revised Access Arrangement.

6 NON-TARIFF MATTERS

6.1 INTRODUCTION

An Access Arrangement must, as a minimum, meet the following requirements established in sections 3.1 to 3.20 of the Code.

- Services Policy

  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.

  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.

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

- Capacity Management Policy.

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

- Trading Policy.

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

- Queuing Policy.

  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.

  An Access Arrangement must include a 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.

- Review Date.

  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.

This chapter provides an assessment of compliance of the Access Arrangement with the above requirements of the Code, with the exception of matters relating to Reference Tariffs that are addressed separately in section 7 of this Draft Decision.

6.2 SERVICES POLICY

6.2.1 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.

6.2.2 Access Arrangement Proposal

A Services Policy is provided in section 4 of the Access Arrangement which commits CMS to making available Reference Services to Prospective Users, and negotiating in good faith for the provision of Non-Reference Services to Prospective Users, subject to there being sufficient Spare Capacity in the Parmelia Pipeline.

Four types of Reference Services are specified in section 4 of the Access Arrangement and described in section 4 of the General Terms and Conditions. The Reference Services are described in terms of the duration of the supply period and continuity of supply, as follows.

- Firm Extended Service: a continuous service (under normal operating conditions) over a contract period of between 10 and 20 years.

- Interruptible Extended Service: a service that may be curtailed or interrupted at the discretion of CMS, over a contract period of between 10 and 20 years.

- Firm Spot Service: a continuous service (under normal operating conditions) over a contract period of one Gas Day.

- Interruptible Spot Service: a service that may be curtailed or interrupted at the discretion of CMS, over a contract period of one Gas Day.

All Reference Services relate to a single Receipt Point and a single Delivery Point. Quantities of gas receivable and deliverable as part of each Reference Service are defined as upper limits in terms of Maximum Daily Quantity (MDQ), Maximum Hourly Quantity (MHQ) and Maximum Flow Rate (MFR).

The only commitments made in the Access Arrangement for the provision of Non-Reference Services are for CMS to negotiate in good faith with Prospective Users for the provision of such services, having regard to applicable principles of the Reference Tariff Policy.

6.2.3 Submissions from Interested Parties

Non-Reference Services

- Phoenix Energy Pty Ltd.

  CMS should assure existing and potential Users of the Parmelia Pipeline that they are not bound only to Reference Services and approved tariff levels; that they are able, and CMS is willing, to negotiate Non-Reference Services for specific prices; and that existing contracts will be grandfathered if the parties so desire.

These concerns are addressed by either the Access Arrangement or the Code. In regard to grandfathering of contracts, section 2.25 of the Code provides for the grandfathering of all contracts entered into before the date the proposed Access Arrangement was submitted (or required to be submitted) and subject to any contract entered into after 30 March 1995 not containing an Exclusivity Right.

Single Receipt and Delivery Points for Reference Services

- Western Power; AlintaGas; Office of Energy

  The restriction of Reference Services to single Receipt Points and Delivery Points is administratively cumbersome. The Reference Services should provide for Users to deliver gas at multiple Receipt Points and receive Gas at multiple Delivery Points, within a single Service Agreement.

- Office of Energy

  In the context of a connection with the AlintaGas distribution system in the future, there may be a need for multiple Delivery-Point contracts to provide the flexibility of nominating at various connection points to the distribution system.

- AlintaGas

  The proposal that the Reference Service involves delivery of gas at a single Receipt Point for delivery to a single Delivery Point is inflexible. Does a User that wants, say, 5 delivery points, have to make 5 different applications? If so, could CMS impose a $10,000 fee on each application? How is capacity trading envisaged to occur on a day to day basis when a User does not have delivery point flexibility? The lack of delivery point flexibility seems to contrast with the postage stamp tariff, which is more conducive to flexibility between delivery points.

The Regulator recognises that there may be reasons of pipeline hydraulics for restricting Service Agreements to single Receipt Points and Delivery Points. Providing for multiple Receipt Points and/or Delivery Points may require alteration of pipeline operating practices and/or installation of additional compression, or may result in sterilisation of pipeline capacity. The net result may be higher pipeline operating costs and ultimately higher tariffs, particularly where the pipeline is operated at close to capacity.

Notwithstanding the potentially higher costs of providing for multiple Receipt Points or Delivery Points, this should be included in the scope of Reference Services if it is desired by a significant portion of the market. Other Access Arrangements in Australia have provided for multiple Receipt Points and Delivery Points in Reference Services[1], and on this basis would appear to be a common industry requirement. There are no significant restrictions to multiple Receipt Points and Delivery Points in Service Agreements for the Dampier to Bunbury Natural Gas Pipeline or the Goldfields Gas Pipeline. Furthermore, there are several current or Potential Users of the Parmelia Pipeline that could conceivably be interested in multiple Recept Points or Delivery Points.

The restriction of Reference Services to single Receipt Points and single Delivery Points also has implications for the trading of pipeline capacity amongst Users. Single Receipt Points and single Delivery Points restricts the ability of Users to trade pipeline capacity under Bare Trades, which would particularly restrict trades of capacity that are of short term or short lead time. This is unlikely to be an issue of importance at the current time due to substantial spare capacity in the Parmelia Pipeline, and hence limited demand for trading of capacity. However, if there is future demand amongst users for short-term trading in pipeline capacity then there is, *ipso facto*, likely to be a significant demand for services with multiple Receipt Points and Delivery Points, and therefore this should arguably be incorporated into Reference Services.

In total, the Regulator considers that the restriction of Reference Services to single Receipt Points and Delivery Points is contrary to common practice in the gas transportation industry and to potential demands of a significant proportion of Users. As such, there is not considered to be sufficient justification for this restriction on Reference Services.

[1] Access Arrangements for: Epic Energy – Moomba to Adelaide Pipeline System; Envestra Limited Gas Haulage Services to the Mildura Network; East Australian Pipeline Limited – Moomba to Sydney Pipeline System; N.T. Gas Pty. Limited – Amadeus Basin to Darwin Pipeline; AGL Pipelines (NSW) Pty Limited – Central West Pipeline.

Contract Duration

- Boral Energy

  The Reference Services do not meet the requirements of the Code in respect of being "Services that are likely to be sought by a significant part of the market". The minimum term of 10 years for Firm Extended Service and Interruptible Extended Service is longer than would be often required by Users, that would often seek service contracts for as little as one to two years to match the term of contracts for retail gas sale. The term of one Gas Day for the Firm Spot Service and the Interruptible Spot Service does not accommodate longer service contracts. Requirements of the Access Request process and the proposed $10,000 Access Request fee are too onerous for services of duration of one Gas Day.

- Office of Energy

  Given the current Access Arrangement is to last for five years, it may be appropriate to allow contracts to have a five year duration unless both parties agree otherwise.

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 of 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 ten-year contract duration for Firm Extended and Interruptible Extended Services is substantially greater than contract terms provided for or proposed under Reference Services in other gas pipeline Access Arrangements throughout Australia, and for two pipelines in Western Australia, as indicated below.

Pipeline	**Minimum Contract Duration for Extended Reference Services**
Epic Energy – Moomba to Adelaide Pipeline System [2]	FT service*: 7 years; IT service*: 1 year.
East Australian Pipeline Limited – Moomba to Sydney Pipeline System [3]	FT service*: 1 year.
N.T. Gas Pty. Limited – Amadeus Basin to Darwin Pipeline [4]	1 year.
AGL Pipelines (NSW) Pty Limited – Central West Pipeline [5]	1 year.
Dampier to Bunbury Natural Gas Pipeline[6]	3 months.

* FT service and IT services correspond to firm and interruptible service contracts.

[2] Epic Energy Pty Limited, Moomba to Adelaide Pipeline Access Arrangement April 1999.

[3] East Australian Pipeline Limited, Moomba to Sydney Pipeline Access Arrangement May 1999.

[4] NT Gas Pty Ltd, Amadeus Basin to Darwin Pipeline Access Arrangement June 1999.

[5] AGL Pipelines Limited, Central West Pipeline Access Arrangement December 1998.

[6] DBNGP Access Manual 10 March 1998.

On the basis of minimum contract duration for other pipelines, it is considered that a one year minimum contract duration is reasonable for an Extended Service. On this basis, the Regulator considers that the ten year minimum contract duration for Firm Extended Services and Interruptible Extended Services is unreasonable. In the absence of any justification to the contrary, the minimum contract term for these services should be at most one year.

The single Gas Day limit on Spot Services is considered to be restrictive. It is reasonable to expect that Users may potentially wish to make spot purchases for transportation capacity for periods of days, weeks or months. Longer duration contracts for Spot Services are available on at least two other Australian pipelines[7]. Given the substantial Spare Capacity in the Parmelia Pipeline, there is not considered to be any technical justification for a single Gas Day limit on Spot Services. Notwithstanding this however, it is considered contrary to the commercial interests of a prudent operator to restrict access to Spot Services and it is likely that CMS would meet a demand for longer duration purchases, if required, as a Non-Reference Service.

In regard to the duration of Spot Services raised in the submission from Boral Energy, it is understood that the intent of CMS is for a User contracting for Spot Services to enter into a service agreement for a period within which they may make multiple purchases of Spot Services under a single Service Agreement. Only a single Access Request would need to be submitted to obtain the service. However, notwithstanding this intent of CMS, the Regulator considers that the provision for multiple Spot Services to be obtained under a single Service Agreement is not clear from the definition of Spot Services in sections 4.8 and 4.9 of the General Terms and Conditions.

6.2.4 Additional Considerations of the Regulator

Section 7.1(c) and 7.2 of the Access Arrangement and section 2 of the General Terms and Conditions provide for CMS to attach conditions to a Service Agreement for provision of a Reference Service, where conditions are at the discretion of CMS and may relate to any matter reasonably required by CMS to protect or secure its position under any proposed Service Agreement.

The discretionary powers of CMS to set conditions for provision of a Reference Service are considered to be inconsistent with the requirements of the Code in respect of Reference Services. Section 3.6 of the Code requires that an Access Arrangement must include the Terms and Conditions on which the Service Provider will supply each Reference Service. There is an implied requirement that any conditions that may be attached to a Service Agreement for a Reference Service must be stated in the Terms and Conditions and additional conditions may not be imposed at the discretion of CMS.

6.2.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of a Services Policy.

[7] One to four months contract duration for East Australian Pipeline Limited – Moomba to Sydney Pipeline System; no limit on contract duration for the Dampier to Bunbury Natural Gas Pipeline.

Required amendments to the Access Arrangement are as follows.

- Section 4 of the General Terms and Conditions should be amended to make provision for Reference Services to accommodate multiple Receipt Points and Delivery Points in a single Service Agreement.

- Section 4 of the General Terms and Conditions should be amended to make provision for minimum contract duration of no greater than one year for Firm Extended Services and Interruptible Extended Services.

- Section 4 of the General Terms and Conditions should be amended to clarify that multiple purchases of Spot Services may be made under a single Service Agreement for Spot Services.

- Section 7.1(c) and 7.2 of the Access Arrangement and section 2 of the General Terms and Conditions should be amended to state the conditions that may be attached to Service Agreements for provision of Reference Services and to remove discretionary powers of CMS to attach conditions to Service Agreements for provision of Reference Services, where such conditions are in addition to those provided for in the General Terms and Conditions.

6.3 TERMS AND CONDITIONS

6.3.1 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.

6.3.2 Access Arrangement Proposal

CMS has provided General Terms and Conditions in a single document as Appendix 3 of the Access Arrangement.

6.3.3 Submissions from Interested Parties

The General Terms and Conditions address several matters that relate to specific requirements of the Code. Submissions from interested parties on the General Terms and Conditions, but which relate to these matters, are dealt with in other sections of the report. Other matters raised in submissions are addressed below.

General Comments on the Terms and Conditions

- Treasury

  The Regulator should ensure that the General Terms and Conditions are reasonably equitable to a Prospective User and broadly in line with industry standards.

Section 3.6 of the Code requires that the Terms and Conditions included must, in the Relevant Regulator's opinion, be reasonable. For Terms or Conditions that do not relate to

explicit requirements of the Code, the Regulator assessed "reasonableness" on the basis of the intent of the Gas Access law and, his own knowledge of industry practice, and to particular circumstances of the Parmelia Pipeline.

Nomination Procedure (GTC Section 6)

- Western Power.

  The nomination arrangement is inflexible. Nominations must be made by 12:00 pm on the day before the Gas Day (Gas Day operates from 8:00 am to 8:00 am). Any request to vary daily nomination is acceptable solely at CMS discretion. At a time when greater pipeline flexibility is required, there is no ability to vary nomination beyond 20 hours before the start of the Gas Day.

The gas transportation industry typically uses the following nomination periods:

- annual forecast;
- monthly nominations;
- weekly nominations;
- daily nominations; and
- renominations.

Annual forecasts assist Service Providers in planning and forecasting. The nomination is usually provided in good faith and, depending on a pipeline operator's request, may specify monthly, weekly or daily average quantities of gas which a User plans to transport during the year.

Monthly nominations are generally given seven days prior to the start of each month. They specify the quantities of gas required to be transported by each User to each Delivery Point, on each day of the month.

Daily nominations are required or allowed by some Service Providers. These nominations define the quantity of gas for the following day at each nominated Receipt and Delivery Point.

Re-nomination is a variation of daily nomination for one or more Receipt or Delivery Points, providing for a change in a previous nomination.

In considering the nomination procedures, the Regulator examined minimum times for daily nominations and renominations for other pipelines, as indicated below.

Pipeline	Minimum Notice for Nomination or Renomination
Epic Energy – Moomba to Adelaide Pipeline System	21 hours
East Australian Pipeline Limited – Moomba to Sydney Pipeline System	Unspecified, but less than 24 hours
N.T. Gas Pty. Limited – Amadeus Basin to Darwin Pipeline	17 hours
AGL Pipelines (NSW) Pty Limited – Central West Pipeline	17 hours
Dampier to Bunbury Natural Gas Pipeline	18 hours

On the basis of comparison with nomination procedures for other pipelines, the Regulator is satisfied that the 20 hour nomination requirement proposed by CMS is consistent with common industry practice and is a reasonable provision of the General Terms and Conditions.

Waiving of Reservation Charges where Services are Interrupted

- Western Power

  The Terms and Conditions do not provide for a refund to Users where CMS (for other than *Force Majeure* reasons) interrupts delivery for maintenance. As the Reservation Charge is payable on MDQ, 80 percent of the tariff is payable for gas which may be interrupted by CMS.

The Australian Pipeline Industry does not provide a uniform approach to waiving of reservation charges when gas transportation is interrupted. For the Dampier to Bunbury Natural Gas Pipeline a proportionate refund of capacity reservation charge is provided for in certain circumstances in which the pipeline owner interrupts delivery or transportation. Conversely, for the Goldfields Gas Transportation Pipeline, charges for reserved capacity apply irrespective of the delivery of gas.

In view of the absence of a uniform practice in respect of waiving of reservation charges in events of interrupted gas transportation, the Regulator considers that the proposal for CMS to not waive reservation charges is reasonable practice in the industry. Notwithstanding this, the Terms and Conditions could be made more equitable in the sharing of risks associated with interrupted transportation through such measures as specifying a pipeline reliability figure which if breached by the Service Provider would result in a waiving of reservation charges, or specifying events, such as construction works due to system expansion, where reservation charges would be waived.

Quality of Gas

- North West Shelf Gas

  The Gas Specifications of the Terms and Conditions[8] are narrower than the operating specifications for the Dampier to Bunbury Natural Gas Pipeline. This may cause an artificial barrier to having gas from the Dampier to Bunbury Natural Gas Pipeline flow into the Parmelia Pipeline.

[8] Set out in Schedule 3 of the Access Arrangement and cited in the General Terms and Conditions (section 13).

The gas quality specification proposed by CMS is, for some quality parameters, more restrictive than both the "current"[9] and "broadest"[10] specifications for the Dampier to Bunbury Natural Gas Pipeline. The broadest specification provides for the possible widening of the gas quality specification for those parties serviced by the Dampier to Bunbury Natural Gas Pipeline. To ensure the future consistency of gas quality in pipelines able to be interconnected, the Regulator considers that the gas quality specification for the Parmelia Pipeline should also make provision for the introduction of the broadest gas specification as provided for in the *Dampier to Bunbury Pipeline Regulations 1998*. The Regulator therefore considers that the gas quality specification for the Parmelia Pipeline should be amended to this effect.

Disputed Invoices

- Western Power

  The General Terms and Conditions (section 14.4) require a User to pay an invoice in full regardless of any dispute in respect of the invoice. This is inconsistent with standard procedure for disputed quantities/prices, which is for the User to pay the undisputed portion of the invoice with the balance subject to further investigation.

Requirements of pipeline operators in respect of payments of disputed invoices varies. Access Arrangements for the Moomba to Adelaide Pipeline System (Epic Energy) and the Moomba to Sydney Pipeline System (East Australian Pipeline Limited) both require payment of disputed invoices prior to settlement of the dispute unless there is a manifest error in the invoice. The access manual for the Dampier to Bunbury Natural Gas Pipeline (Epic Energy) provides for the disputed portion of an invoice to remain unpaid until the dispute is resolved. In view of this range of arrangements for other gas pipelines, the Regulator considers it reasonable for CMS to require payment of disputed invoices in full prior to settlement of a dispute, subject to provision for non-payment in situations of a manifest error in the disputed invoice.

Measurement

- Western Power.

  CMS has stated that testing and measurement of metering equipment (section 16.2 of the General Terms and Conditions) will be performed at times and in a manner which is in accordance with good pipeline industry practice. A specific time – i.e. at intervals of no greater than two months, should be specified in the Access Arrangement.

The time interval for testing and measurement of metering equipment as a reasonable interval would depend on the nature, age and condition of the equipment. Since the accuracy of metering has a direct impact on the billing procedure, it would be expected that a prudent operator would ensure that metering is accurate through undertaking reasonably frequent verification tests.

[9] Epic Energy Dampier to Bunbury Natural Gas Pipeline Access Manual.

[10] *Dampier to Bunbury Pipeline Regulations 1998*, Schedule 1.

"Good industry practice" may be defined by reference to other pipelines in Western Australia. Accuracy tests are carried out monthly for the Dampier to Bunbury Natural Gas Pipeline, and either monthly or two-monthly for the Goldfields Gas Transportation Pipeline.

- Western Power

  Acceptable accuracy of metering equipment is stated in section 16.3 of the Terms and Conditions to be +/- 2 percent of the output range of the measuring instrument. It is not stated if the +/- 2 percent is based on units of volume or energy. This needs to be clearly defined. The wording 'output range of the measuring equipment' is vague. The +/- 2 percent should apply to the total measurement process.

The energy value of gas transported through a pipeline is a calculated value derived from measurements of gas volume and gross heating value. Each of these measurements has its own accuracy that is dependent upon the metering equipment used and the flow rates of gas.

Technical advice to the Regulator on this issue was that most pipeline operators in Australia define ranges of accuracy for different flow rates and specify if the stated accuracy is based on units of energy or volume. It is considered reasonable that the General Terms and Conditions should specify ranges of accuracy for different flow rates, specify if the stated accuracy is based on units of energy or volume, and state an accuracy in the same measurement units as are used for billing.

Insurance Requirements

- Office of Energy

  The General Terms and Conditions (19.6) require Users to take out insurance of not less than $5 million (or such other amount as CMS may notify from time to time) in respect of public liability. OffGAR may wish to consider whether an insurance amount of $5 million is a reasonable insurance amount which does not act as a barrier to entry and prevent smaller customers from gaining access.

The specified insurance requirement of $5 million is considered to be within common amounts of public liability coverage and is not considered by the Regulator to be unreasonable. Notwithstanding this, however, the provision for CMS to alter the requirement for insurance coverage by notification is not regarded as reasonable for General Terms and Conditions relating to Reference Services. Such requirements should be fixed, or be variable only in respect of stated contingencies and by stated amounts.

Dispute Resolution

- Office of Energy

  The dispute resolution procedures specified in section 25 of the General Terms and Conditions relate to matters covered by a Service Agreement. In relation to certain disputes, the provisions of section 25 of the General Terms and Agreement will be conflicting with the Code dispute resolution mechanism. This could be especially important in relation to existing users seeking additional services.

The dispute resolution provisions of the Code (section 6) relate to Prospective Users and apply to Covered Pipelines independently of the Access Arrangement or General Terms and Conditions. The definition of Prospective User includes existing Users seeking additional services. Hence there does not appear to be a conflict between Section 25 of the General Terms and Conditions and the Code.

- Office of Energy

  It may be appropriate 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. Application of the Code Arbitrator to all disputes in relation to this pipeline could be achieved by reference in the CMS access arrangement. If CMS considers it undesirable to have the Code Arbitrator hearing all disputes then it may be appropriate in section 25 of the General Terms and Conditions to include an explicit reference to the Code Arbitration Mechanism and the disputes that are necessary to be lodged with the Code Arbitrator. It may also make reference to the appropriate procedures for lodging such disputes.

The Code Arbitrator has functions under section 6 of the Code in relation to disputes between Prospective Users and Service Providers. Extending the functions of the Code Arbitrator to consider disputes relating to Service Agreements is a matter relating to the regulatory provisions of the Code and is outside the scope of consideration by the Regulator. In any case, normal contract arbitration procedures are able to accommodate disputes in relation to Service Agreements. It should be noted, however, that 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.

6.3.4 Additional Considerations of the Regulator

The Regulator had no concerns with provisions of the General Terms and Conditions other than those addressed above, in relation to public submissions, or in other sections of this Draft Decision in relation to specific requirements of the Code.

6.3.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of Terms and Conditions.

Required amendments to the Access Arrangement are as follows.

- Section 4.3 of the General Terms and Conditions should be amended to specify the degree of reliability for the Firm Extended Service.

- Section 13.2 and schedule 3 of the General Terms and Conditions should be amended to make provision for the introduction of the broadest gas quality specification as provided for in the *Dampier to Bunbury Pipeline Regulations 1998*.

- Section 14.4 of the General Terms and Conditions should be amended to allow for the non-payment of disputed invoices, or the disputed portion of an invoice, in instances of a manifest error in the invoice.

- Section 16.3 of the General Terms and Conditions should be altered to provide for accuracy ranges of metering equipment to be specified for different flow rates, to state whether specifications of accuracy are based on units of energy or volume, and to provide for statements of accuracy in the same units as are used for billing.

- Section 19.6 of the General Terms and Conditions should be amended to remove the provision for CMS to exercise discretion in respect of the level of public liability insurance that Users are required to hold.

6.4 CAPACITY MANAGEMENT POLICY

6.4.1 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.

6.4.2 Access Arrangement Proposal

In section 8 of the Access Arrangement CMS proposes to manage the Parmelia Pipeline as a Contract Carriage Pipeline.

6.4.3 Submissions from Interested Parties

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

6.4.4 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 is to be managed as a Contract Carriage Pipeline, it is considered that the requirements of the Code are met.

6.4.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to meet the requirements of the Code in respect of stating a Capacity Management Policy.

6.5 TRADING POLICY

6.5.1 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 states that examples of things that would be reasonable for the purposes of section 3.10(b) and (c) are:

(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.

6.5.2 Access Arrangement Proposal

A Trading Policy is provided by CMS in section 20 of the General Terms and Conditions.

The Trading Policy provides for Bare Transfers and Consent Transfers consistent with requirements of the Code. Information is provided in respect of the rights of CMS in respect of Consent Transfers, as follows.

i. Situations in which CMS may withhold consent to a Consent Transfer (GTC section 20.6).

ii. The conditions that CMS may impose on a Consent Transfer, generally providing for a transferee or assignee to meet similar requirements as would apply to a Prospective User making an Access Request (GTC section 20.7).

The Trading Policy also makes provision for the following matters that are beyond the specific requirements of the Code.

i. Assignment by CMS of its interests, rights and obligations in the Parmelia Pipeline or in a Service Agreement (GTC section 20.1).

ii. The deeming of a Consent Transfer to include any change in control of a company that is a User, but which is not listed on the Australian Stock Exchange (GTC section 20.7).

iii. The granting by a User of an Encumbrance in respect of a Service Agreement (GTC section 20.8).

6.5.3 Submissions from Interested Parties

Adequacy of the Trading Policy

- Western Power

  The Trading Policy is very brief and inadequately explained. There is no reference to daily trading/swapping of spare capacity.

The Code requires an Access Arrangement to address the process by which a trade may occur (relating to Bare Transfers and Consent Transfers) but not particular forms of capacity trade, such as daily trading/swapping. Trades of short lead times and/or short duration would generally be preferentially undertaken as Bare Transfers, which do not involve the Service Provider as a party to the transaction. The provisions of the Access Arrangement relating to Bare Transfers comply with the requirements of the Code. Notwithstanding this, the Access Arrangement may be unduly restrictive on capacity trading if the potential application of Bare Transfers is limited. This is further discussed below in response to submissions on restrictions on capacity trading imposed by single Receipt Points and Delivery Points in Reference Services.

Restrictions on Trading Imposed by Single Receipt Points and Delivery Points for Reference Services.

- Western Power

  The limitation of Reference Services to single Receipt Points and Delivery Points reduces the capability of Users to trade unutilised capacity.

CMS have proposed that any trade of capacity that involves a change in Receipt Points or Delivery Points from those specified in the relevant Service Agreement automatically constitutes a Consent Transfer. Consequently, the limitation of Reference Services by CMS to single Receipt Points and Delivery Points restricts the scope of trades that may be classified as Bare Transfers. As a result of the greater administrative requirements of Consent Transfers over Bare Transfers, it is likely that this would increase the cost and reduce the frequency of capacity trading, particularly for trades with short lead times and short duration. This matter is considered in respect of the acceptability of the specification of Reference Services (section 6.2 of this Draft Decision).

Ability of Users to Alter Receipt Points and Delivery Points

- AlintaGas.

  Users should be provided with stronger rights to alter Receipt Points or Delivery Points so as to facilitate capacity trading.

Section 3.10(c) of the Code requires that a User be permitted to change the Delivery Point or Receipt Points from that specified in any contract for the relevant Service, subject to there being no reasonable technical or commercial reason to not allow the change, and subject to the prior written consent of the Service Provider. 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.

CMS has not addressed changes in Receipt Points and Delivery Points in the Trading Policy other than in relation to the modification, expansion or extension of the Parmelia Pipeline

(General Terms and Conditions section 11.1). This is not strictly in contravention of the Code requirements. However, given the proposed restriction of Reference Services to single Receipt Points and Delivery Points, there is likely to be a high demand from Users to alter Receipt Points and Delivery Points for a Service Agreement relating to a Reference Service. In view of this, it is considered reasonable to expect that CMS would outline in the Trading Policy the conditions under which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.

6.5.4 Additional Considerations of the Regulator

The provisions for capacity trading address the following three matters that are outside of the requirements of the Code.

i. Assignment by CMS of its interests, rights and obligations in the Parmelia Pipeline or in a Service Agreement (section 20.1 of the General Terms and Conditions).

ii. The deeming of a Consent Transfer to include any change in control of a company that is a User, but which is not listed on the Australian Stock Exchange (section 20.8 of the General Terms and Conditions).

iii. The granting by a User of an Encumbrance in respect of a Service Agreement (section 20.9 of the General Terms and Conditions).

The provision for CMS to assign interests, rights and obligations in the Parmelia Pipeline or in a Service Agreement includes provisions for protection of the interests of Users under Service Agreements. As such, these provisions are considered reasonable.

In regard to deeming of a Consent Transfer to include any change in control of a company that is a User, but which is not listed on the Australian Stock Exchange, or, if the User is a subsidiary, a change in the holding company, it is unclear to the Regulator why the exception is limited to companies listed on the Australian Stock Exchange and why holding companies listed on the Australian Stock Exchange are not also excluded from the consent requirement.

In regard to the granting by a User of an Encumbrance in respect of a Service Agreement, CMS require that the person to have the benefit in the Encumbrance enter into a covenant with CMS, in which the person, if enforcing or exercising powers under the encumbrance, would become bound by the terms of the Service Agreement as if the person were the User in the Service Agreement. As these provisions protect the interests of CMS under a Service Agreement, they are considered reasonable.

6.5.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of a Trading Policy.

Required amendments to the Access Arrangement are as follows.

- Section 20 of the General Terms and Conditions should be amended to specify conditions under which consent will or will not be given to alter Receipt Points and Delivery Points in a Service Agreement, and any conditions that must be adhered to as a condition of consent being given.

6.6 QUEUING POLICY

6.6.1 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 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.

6.6.2 Access Arrangement Proposal

A Queuing Policy is provided by CMS in section 10 of the Access Arrangement.

The Queuing Policy provides for a queue to exist whenever there is insufficient Spare Capacity to satisfy an Access Request that has been lodged with CMS. Provision is made for separate queues to exist for Firm Extended and Interruptible Extended Reference Services. No specific mention is made of queuing arrangements for Non-Reference Services.

Access Requests are queued on the basis of date of lodgement, although provision is made for CMS to allocate pipeline capacity other than in order of queuing in times of "high demand for pipeline services and open seasons and similar invitations", in which case CMS may deal with Access Requests in such a manner as to maximise pipeline utilisation and economically efficient outcomes for the Parmelia Pipeline (section 10.2 of the Access Arrangement).

The Access Arrangement provides details of operation of the Queuing Policy in respect of:

- placement in a queue;
- notification of Users as to placement of an Access Request in a queue, and changes in positions in a queue;
- obligations on Prospective Users with queued Access Requests to notify CMS of circumstances or events that may alter their requirements for capacity;
- the means of assigning priority to Access Requests in a queue;
- the holding of positions in multiple queues, multiple positions in a single queue;
- obligations of Prospective Users to maintain a position in a queue;
- removal of Access Requests from a queue;
- notification of Prospective Users of Spare Capacity or Developable Capacity;
- operation of queues in the event of acceptance or non-acceptance of Capacity;
- assignment of queue positions;
- the rights of any Prospective User with a queued Access Request being subordinate to the rights of any other party under a Grandfathered Contract.

6.6.3 Submissions from Interested Parties

None of the submissions made in respect of the Parmelia Pipeline Access Arrangement addressed the proposed Queuing Policy.

6.6.4 Additional Considerations of the Regulator

The Code implicitly requires that the Queuing Policy 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 Queuing Policy is not considered to meet this requirement due to insufficient information being provided on the following matters.

- The Queuing Policy only explicitly states that queues will be established for Access Requests for Reference Services. As such the Queuing Policy does not provide sufficient detail to enable Users and Prospective Users to understand in advance how priorities of access to Spare Capacity or Developable Capacity will be determined in respect of Access Requests for Non-Reference Services.

- The Queuing Policy provides for separate queues to be established for Firm Extended and Interruptible Extended Services. However, the Policy does not provide sufficient information to enable Users and Prospective Users to understand in advance how the two queues will interact. It is not clear how Spare Capacity will be allocated amongst queued Access Requests for the two types of services. For example, if capacity becomes available that could be allocated as either a Firm Extended Service or an Interruptible Extended Service, it is not clear in the Queuing Policy how the capacity will be allocated to between Prospective Users at the head of queues for these services.

- The Access Request provides for CMS to allocate pipeline capacity other than in the order of queuing in times of "high demand for pipeline services, open seasons and similar invitations". Insufficient information is provided to enable Users and Prospective Users to understand in advance the circumstances in which pipeline capacity will not be allocated in order of queued Access Requests. Furthermore, insufficient information is provided on the method by which the priority of a Prospective User to obtain access to spare capacity and developable capacity would be determined in these circumstances.

6.6.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of a Queuing Policy.

Required amendments to the Access Arrangement are as follows.

- Section 10 of the Access Arrangement (Queuing Policy) should be amended to provide further information on how priorities of access to Spare Capacity or Developable Capacity will be determined in respect of Access Requests for Non-Reference Services.

- Section 10 of the Access Arrangement (Queuing Policy) should be amended to indicate how the priority of a Prospective User on a queue for one service is to be determined vis a vis Prospective Users on queues for other services.

- Section 10 of the Access Arrangement (Queuing Policy) should be amended to describe in detail the circumstances in which CMS may deal with Access Requests other than in accordance with priorities as defined by queues, and describe the method by which priorities of Prospective Users will be determined in these circumstances.

6.7 EXTENSIONS/EXPANSIONS POLICY

6.7.1 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 provide:

(i) 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.

6.7.2 Access Arrangement Proposal

An Extensions/Expansions Policy is provided by CMS in section 11 of the Access Arrangement.

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

i. CMS will undertake reasonable investigations as to the nature, extent and approximate cost of Enhanced Facilities where the cost of the investigations is met by the Prospective User and the Prospective User commits to make an agreed contribution to the costs of the Enhanced Facilities.

ii. CMS may of its own accord undertake investigations as to possible Enhanced Facilities.

iii. A pipeline extension or expansion may be made subject to the Access Arrangement either by CMS electing to do so, and the Regulator consents, or by amendment to the Access Arrangement where the amendment is required by the Code.

iv. Where extensions or expansions have been fully funded by a User, there would be no change to Reference Tariffs applied to that user.

v. Incremental Users as defined in the Code which have not made capital contributions towards Incremental Capacity (as defined in the Code) which they use and which has been funded by others will be liable to pay for surcharges as allowed for in section 8 of the Code.

vi. Pipeline extensions or expansions funded by CMS may result in the application of surcharges as allowed for in section 8 of the Code.

6.7.3 Submissions from Interested Parties

- Treasury

  Although the Access Arrangement (section 11.2(a)) provides that CMS will undertake investigations in building Enhanced Facilities to provide Developable Capacity, the Access Arrangement does not commit CMS to actually provide Enhanced Facilities. The Regulator may consider requiring CMS to undertake such works if listed criteria are met, including criteria upon which CMS will make a decision of this nature.

  The Access Arrangement only commits CMS to undertake investigations where a Prospective User makes an "agreed contribution" to the cost of any Enhanced Facilities. This appears to leave it open to CMS to fail to agree on a contribution and thereby avoid having to undertake any investigations. It is also unclear how the agreed contribution would be collected by CMS, which could lead to difficulties if, for instance, considerable preliminary work were done on a proposed extension/expansion that did not proceed for whatever reason. There is a risk that access seekers would regard the provisions as creating uncertainty and giving CMS an inequitable degree of leverage.

The Code does not impose any requirement for an Access Arrangement to commit a Service Provider to investigating or providing Enhanced Facilities, or to list criteria which, if met, would commit the Service provider to provide Enhanced Facilities. Consequently, the submission from Treasury addresses matters that are outside the scope of the Code.

6.7.4 Additional Considerations of the Regulator

The Code requires that the Extensions/Expansions Policy specify 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. The Extensions/Expansions Policy indicates that extensions/expansions may be made subject to the Access Arrangement either at the discretion of CMS or by amendment to the Access Arrangement where the amendment is required by the Code.

In instances where CMS is able to exercise discretion, the Extensions/Expansions Policy does not specify any method to be applied in the determination. However, section 3.16(a) provides a point of clarification that "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". Commitments made by CMS in the Access Arrangement are partly consistent with the Code requirements and the point of clarification in section 3.16(a) of the Code. The Extensions/Expansions Policy proposed by CMS indicates that extensions/expansions may be made subject to the Access Arrangement either at the discretion of CMS, and subject to the consent of the Regulator, or by amendment to the Access Arrangement where the amendment is required by the Code.

However, the Policy does not explicitly address a decision for an extension or expansion to be not treated as part of the Covered Pipeline. The Regulator considers that in not indicating how such a decision is to be made, the Access Arrangement does not meet the requirements of the Code. This deficiency could be remedied by amending section 11 of the Access Arrangement to include a clause indicating that CMS may elect for a pipeline extension or expansion to be not subject to the Access Arrangement, subject to providing written notice the Regulator. It should be noted that regardless of the Extensions/Expansions Policy proposed by CMS, any person, including the Regulator, may make application to the National Competition Council to seek coverage of that part of the pipeline created by an extension or

expansion. In this case the NCC would make a recommendation on coverage to the Relevant Minister, based on criteria set out in section 1 of the Code.

6.7.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of an Extensions/Expansions Policy.

Required amendments to the Access Arrangement are as follows.

- Section 11 of the Access Arrangement (Extensions/Expansions Policy) should be amended to include a clause indicating that CMS may elect for a pipeline extension or expansion to be not subject to the Access Arrangement, subject to providing written notice to the Regulator.

6.8 REVIEW DATE

6.8.1 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 Submissions Date and Revisions Commencement Date, the Relevant 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 its decision on an Access Arrangement (or revisions to an Access Arrangement), if it 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;

(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.

6.8.2 Access Arrangement Proposal

Section 3 of the Access Arrangement specifies that the Access Arrangement will come into effect on the Effective Date. The term of the Access Arrangement is not explicitly stated although provision is made in section 12 of the Access Arrangement for a Revisions Submission Date of 31 October 2003, and a Revisions Commencement Date of 1 May 2004. The implied term of the Access Arrangement is approximately 4½ years.

Provisions for review of the Access Arrangement, other than in respect of the Revisions Submissions Date, are made in sections 12.2 and 12.3 of the Access Arrangement. These provisions allow for CMS to conduct a review of the access arrangement in the event of:

- a pipeline extension is undertaken which is subject to the Access Arrangement;
- there is a material or significant change in the market, economic, political or general regulatory conditions or circumstances from those which, at the Effective Date, are forecast and assumed will exist for the duration of the Access Arrangement;
- there is a change in the provisions or administration of any Act or other law, including the Code or the *Trade Practices Act (1974)* (Cth), which necessitates a review of the Access Arrangement;
- any other event occurs which requires the Access Arrangement to be updated or amended under any other provision of the Access Arrangement; or
- if the proposed Commonwealth goods and services tax, when it is introduced, is different from what was understood at the Effective Date.

6.8.3 Submissions from Interested Parties

- Office of Energy

  CMS may conduct a review of the Access Arrangement if the goods and services tax, when it is introduced, or its application or effect is different from what was understood at the Effective Date. Given the significance and complexities of the GST, it may be more appropriate for a review and adjustment of charges to be undertaken only with the prior agreement of the Regulator. The goods and services tax should serve as an Access Arrangement review trigger event as provided for under the Code.

Section 2.28 of the Code provides for the Service Provider to, at any time, submit to the Regulator proposed revisions to the Access Arrangement. Revisions only come into effect after approval by the Regulator. Consequently the requirements of the Code satisfy concerns raised in the submission in respect of a requirement for prior agreement of the Regulator with revisions of the Access Arrangement.

Section 3.17 of the Code provides for the Regulator to require that specific major events be defined that trigger an obligation on the Service Provider to submit revisions to the Access Arrangement prior to the Revisions Submission Date. This is not considered necessary in respect of the goods and services tax given the relatively short duration of the Access Arrangement and a low likelihood that any matters would arise in association with the goods and services tax that would require revision of the Access Arrangement in the interests of Users. A specified trigger event is not necessary for CMS to propose revisions to the Access Arrangement in order to raise Reference Tariffs to accommodate a goods and services tax.

6.8.4 Additional Considerations of the Regulator

In addition to providing for review of the Access Arrangement in accordance with the requirements of the Code, the Access Arrangements provides for CMS to initiate a review at other times in response to certain contingencies. The Regulator gave consideration to whether this was consistent with the Code.

Sections 12.2 and 12.3 of the Access Arrangement provide for CMS to conduct a review of the Access Arrangement, other than as required by the Review Submissions Date in response to several contingencies. These contingencies were summarised in section 6.8.2 of this Draft Decision.

Section 2.28 of the Code allows a Service Provider to propose revisions to an Access Arrangement at any time with no restrictions placed on the Service Provider as to the reasons for proposing revisions. Thus the contingencies listed in sections 12.2 and 12.3 of the Access Arrangement are, for all practical purposes, just declaratory. CMS could propose revisions to the Access Arrangement in response to any of these contingencies even if they were not stated in the Access Arrangement. However, notwithstanding the ability of CMS to propose revisions to the Access Arrangement, any proposed revisions are subject to assessment and approval by the Regulator in accordance with provisions of Part 2 of the Code.

The Regulator also gave consideration to whether it was necessary for the Access Arrangement to define specific major events that trigger an obligation on the Service Provider to submit revisions prior to the Revisions Submission Date, in accordance with section 3.17 of the Code. In this regard, the Federal Government's proposed changes to company taxation are relevant. The proposed taxation reforms may reduce the taxation liabilities of CMS and consideration will need to be given to the resultant savings being passed on in lower tariffs.

6.8.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to meet the requirements of the Code in respect of stating a Review Date. However, the Regulator considers that provision should be made for review of the Access Arrangement in the event of changes to company taxation as currently

proposed by the Federal Government. Required amendments to the Access Arrangement are as follows.

- Section 12 of the Access Arrangement should be amended to make provision for a review of the Access Arrangement to be triggered by changes to company taxation arrangements, including changes to the rate of corporate income tax.

6.9 OTHER MATTERS INCLUDED IN THE ACCESS ARRANGEMENT

6.9.1 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. In assessing these matters, 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.

6.9.2 Access Arrangement Proposal

The Access Arrangement addresses several matters outside the scope of sections 3.1 to 3.20 of the Code. These matters relate principally to requirements and procedures for the lodgement of Access Requests and entering into a Service Agreement.

One of the additional matters related to the charging of a Service Request Administration Fee for lodgement of an Access Request. The Regulator's considerations in regard to this

proposed fee are documented in section 8 of this Draft Decision. Considerations on other matters are documented below.

6.9.3 Submissions from Interested Parties

Access Request an Irrevocable Offer

- Boral Energy

  CMS propose to make an Access Request an irrevocable offer and to bind the prospective user to pay for the services it has inquired about. This requirement is excessive, and is more onerous than normal commercial practice and more onerous than the normal practice for transmission pipelines in Australia. It is also peculiar and restrictive that an access request should be submitted under seal. Affixing the common seal of an entity to a document accepts the terms of an agreement between the parties executing the document, yet CMS suggest it is appropriate to affix the seal before any agreement has been reached. An Access Request should be an inquiry and no binding relationship should exist until the parties execute the Service Agreement.

Section 6.6 of the Access Arrangement provides for an Access Request to comprise an irrevocable offer by the Prospective User to CMS for it to use and pay for gas transportation services set out in the Access Request, subject only to any counter offer CMS may choose to make. The status of an Access Request as an irrevocable offer is not inconsistent with section 5.4 of the Code, but is not explicitly contemplated by the Code. Whether it is acceptable for an Access Request to be treated as an irrevocable offer is subject to an assessment of reasonableness taking into account matters set out in section 2.24 of the Code, in particular the Service Provider's legitimate business interests (section 2.24(a) of the Code) and the interests of Users and Prospective Users (section 2.24(f) of the Code).

In assessing whether it is reasonable for an Access Request to comprise an irrevocable offer, considerations of the Regulator were as follows.

- An object of CMS in proposing that an Access Request be an irrevocable offer is to reduce the likelihood of submission of vexatious Access Requests, and to ensure that the Service Provider has reasonable certainty that an Access Request comprises a bona fide request for services prior to bearing the cost of investigations as to whether it is possible to provide the requested service. However, sections 5.4 and 5.5 of the Code provide for the Service Provider to require any Prospective User to meet reasonable costs of investigations as to whether an Access Request can be met. Consequently the argument of CMS that an Access Request should comprise a formal offer so as to reduce the likelihood of costs being imposed on CMS by vexatious Access Requests is not considered valid. Notwithstanding this, an Access Request being an irrevocable offer would be in the commercial interests of CMS by bringing forward the time of contractual commitment of a Prospective User to use and pay for gas transportation services.

- For a Reference Service on which no condition is imposed by CMS, the Prospective User has full knowledge of the Service characteristics, the terms and conditions on which the Service will be supplied, and the tariff for the Service. Consequently, for a Reference Service on which no condition is imposed by CMS, the status of an Access Request as an irrevocable offer is not considered to expose the Prospective User to commercial disadvantage.

- In the event of CMS only being willing to provide a Service subject to specific Conditions, the Access Request becomes an irrevocable offer from the last date for non-

acceptance of the last of those Conditions that occurs without the Prospective User having notified CMS of non-acceptance of those Conditions. The requirement for actions to be taken by the Prospective User to prevent becoming contractually bound to use and pay for gas transportation services other than as set out in the original Access Request is considered to be to the commercial disadvantage of a Prospective User.

- The status of an Access Request as an irrevocable offer does not prevent a Potential User from making inquiries about the availability of Services prior to submitting an Access Request, albeit neither the Access Arrangement nor the General Terms and Conditions place CMS under any obligation to provide information to a Prospective User or enter into negotiations with a Prospective User before an Access Request has been lodged. General information on Spare Capacity, and hence on the potential availability of services is, however, required to be made publicly available by CMS in accordance with section 5.9 of the Code.

In view of these considerations, the Regulator considers that it is reasonable for an Access Request to comprise an irrevocable offer only in respect of Access Requests in cases in which no Condition is imposed by CMS on delivery of the respective Reference Service. For Access Requests where conditions are imposed by CMS, it is only considered reasonable that an Access Request becomes an irrevocable offer on acceptance of any conditions by the Prospective User, albeit a reasonable time limit for acceptance of conditions may be imposed under the Access Arrangement.

Entering into a Service Agreement

- Treasury

  Provisions of the Access Arrangement and Terms and Conditions relating to mechanisms for entering into a Service Agreement are convoluted and complex. The provisions should be simplified as far as practical to make it clear to a Prospective User when an irrevocable contract for pipeline access comes into being. The Regulator should be satisfied that provisions for entering into a Service Agreement are internally consistent and cover all contingencies. The Regulator should also analyse the circumstances where CMS is able to use an "escape clause" to avoid entering into a contract and ensure that these are limited to clearly defined and commercially realistic circumstances.

The provisions for entering into a Service Agreement are described in sections 6 and 7 of the Access Arrangement. Legal advice was obtained to assess whether these provisions are unreasonably complex and unclear to a Prospective User in respect of when an irrevocable contract for pipeline access comes into being. Advice was received to the effect that the provisions are complex. However, the complexity of provisions for entering into a Service Agreement is not, in itself, valid reason for requiring amendment of the Access Arrangement.

Notwithstanding this, legal advice to the Regulator drew attention to an inconsistency between sections 6.6 and 6.14 of the Access Arrangement in respect of entering into a Service Agreement. Section 6.6 of the Access Arrangement provides for an Access Request to constitute an irrevocable offer when:

(a) in the case where no condition has been imposed by CMS on the provision of a service, from the date on which the Access Request was lodged or deemed to have been lodged; or

(b) in the case where one or more conditions has been imposed on the provision of a service, from the last date for non-acceptance of any conditions that occurs without the Prospective User having notified CMS of non-acceptance.

The consequence of Section 6.6 is that no action is required to be undertaken by CMS for an Access Request to become an irrevocable offer. This is inconsistent with provisions of section 6.14 of the Access Arrangement that provides for a Prospective User to withdraw an Access Request at any time by notice in writing to CMS prior to CMS's acceptance of the Access Request, or it being placed in a queue. There is an implication in section 6.14 of the Access Arrangement that an Access Request becomes an irrevocable offer only when CMS has provided notification of acceptance. This contradicts the provisions of section 6.6 of the Access Arrangement.

Information Requirements on Prospective Users

- Treasury

  Section 6.8 of the Access Arrangement allows CMS to require a Prospective User to provide additional information at its discretion in respect of an Access Request. CMS's ability to do so should be limited, in order to overcome the possibility that CMS might unduly delay or even defeat an application by making unreasonable demands for additional information. The Regulator should consider whether CMS should only be able to require information that relates directly to a matter listed in sections 6.1, 6.2 or 6.4 of the Access Arrangement; where it is reasonable to do so; and if CMS clearly describes what further information is required.

Section 6.8 of the Access Arrangement provides for CMS to require a Prospective User to submit additional information to that provided in an Access Request prior to CMS responding to the Access Request in accordance with section 5.4 of the Code. Further, section 6.10 of the Access Arrangement provides for CMS to reject an Access Request on the basis of CMS not being reasonably satisfied with the provision of information by the Prospective User or information not being provided by the Prospective User to CMS in the designated time.

The Regulator considers that sections 6.8 and 6.10 of the Access Arrangement provide insufficient description of the additional information requirements that may be imposed on a Prospective User by CMS. The scope of additional information able to be required by CMS should be limited by either reference to sections 6.1, 6.2 or 6.4 of the Access Arrangement, that specify the information requirements for an Access Request, or by reference to the Information Package that under section 5.1 of the Code must be established and maintained by the Service Provider and which must describe the information the Service Provider requires in order to consider an Access Request.

Refusal of Vexatious, Frivolous or Anti-Competitive Access Requests

- Treasury

  Section 6.13 allows CMS to reject outright an Access Request it considers anti-competitive. It is not clear what criteria CMS might apply to reach this view. The Regulator may like to review whether this power should be clarified or removed.

Section 6.13 of the Access Arrangement provides for CMS to refuse consideration of an Access Request if CMS considers that the Access Request has been lodged for reasons which are vexatious, frivolous or anti-competitive.

Refusal by CMS to consider an Access Request is inconsistent with the provisions of section 5.4 of the Code that require CMS to respond in one of three ways to an Access Request:

(a) confirming that Spare Capacity exists to satisfy the request and specifying the charges and terms and conditions upon which it will make the service available;

(b) advising that Spare Capacity does not exist to satisfy the request;

(c) advising that investigations are required to be undertaken prior to responding to the request.

Lapse of Access Request

- Treasury

  Section 6.15 of the Access Arrangement provides for, among other things, that where CMS accepts an Access Request Offer for a Reference Service but that conditions precedent have not been satisfied within one month of CMS's notification of acceptance, or such extended period as may be agreed to by CMS, that the Access Request is deemed to have lapsed. This is inappropriate because conditions precedent under section 7.3 of the Access Arrangement could include matters that in the ordinary course of events would take longer than one month to satisfy. An Access Request should be deemed to lapse only where there is clear evidence that the access seeker's proposal or behaviour is commercially untenable.

Section 7.3(b) of the Access Arrangement specifies conditions that, inter alia, may be required by CMS to be satisfied either as conditions precedent or conditions subsequent to acceptance of an Access Arrangement by CMS. These conditions include the occurrence of a defined event including installation and commissioning of Enhanced Facilities or third party equipment, process facilities or infrastructure. Such an event may reasonably take greater than one month to occur, and therefore result in lapse of an Access Request under provisions of section 6.15 of the Access Arrangement. Whilst it is recognised that the intent of the Access Arrangement is likely to be for any such conditions to be imposed as a condition subsequent to entry into a Service Agreement, this is not strictly provided for the current wording of section 7.3 of the Access Arrangement.

6.9.4 Additional Considerations of the Regulator

The Regulator had no additional concerns in respect of components of the Access Arrangement that lie outside the scope of Section 3.1 to 3.20 other than have been addressed above in response to public submissions.

6.9.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is <u>not</u> considered to be reasonable in respect of several matters that relate to elements and principles other than those set out in sections 3.1 to 3.20 of the Code.

Required amendments to the Access Arrangement are as follows.

- Section 6.6 of the Access Arrangement should be amended to provide for an Access Request to comprise an irrevocable offer only where CMS imposes no conditions on delivery of the requested Service, or where the Prospective User indicates acceptance of any Conditions imposed by CMS.

- Section 6.6 and/or section 6.14 of the Access Arrangement should be amended to remove contradictory provisions relating to the time at which an Access Request becomes an irrevocable offer.

- Section 6.8 of the Access Arrangement should be amended to limit the scope of additional information able to be required by CMS to the information requirements listed in respect of an Access Request in 6.1, 6.2 or 6.4 of the Access Arrangement, or to the information requirements specified in the Information Package compiled and maintained in accordance with section 5.1 of the Code.

- Section 6.13 of the Access Arrangement should be deleted. This section provides for CMS to refuse consideration of an Access Request if CMS considers that the Access Request has been lodged for reasons which are vexatious, frivolous or anti-competitive.

- Section 7.3 of the Access Arrangement should be amended to provide for defined events such as including installation and commissioning of Enhanced Facilities or third party equipment, process facilities or infrastructure, to be required only as condition subsequent to entering into a Service Agreement.

7 REFERENCE TARIFFS

7.1 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.

CMS has proposed Reference Tariffs for two Reference Services: the Firm Extended Service and the Interruptible Extended Service. In accordance with the principles established by the Code, CMS used a price path methodology for the determination of Reference Tariffs. With this approach, a series of Reference Tariffs are determined in advance for the Access Arrangement Period. The Reference Tariffs follow a path that is 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 Operating Expenditure;
- estimation of an appropriate Rate of Return;
- specification of a Depreciation Schedule;

- determination of Total Revenue, a cost/revenue allocation across services, and 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 CMS in determining Reference Tariffs and individual parameters of the related financial analysis, taking into account the requirements of the Code and submissions from interested parties.

7.2 METHODOLOGY USED TO DETERMINE REFERENCE TARIFFS

7.2.1 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.

7.2.2 Access Arrangement Proposal

CMS utilised a price path approach for the determination of Reference Tariffs.

7.2.3 Submissions from Interested Parties

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

7.2.4 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 CMS of a price path methodology is consistent with these requirements.

7.2.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to meet the requirements of the Code in respect of the general methodology used for the calculation of Reference Tariffs. This does not imply, however, that the methodology has been applied to the determination of Reference Tariffs either appropriately or with the required degree of technical rigour and substantiation. These matters are addressed in the following sections of this chapter.

7.3 INITIAL CAPITAL BASE

7.3.1 Access Code Requirements

Sections 8.10 and 8.11 of the Code state the principles for establishing the Initial Capital Base for an existing Covered Pipeline when a Reference Tariff is first proposed for a Reference Service. These principles apply to the Access Arrangement for the Parmelia Pipeline.

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 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)[11] of pipeline assets and a Depreciated Optimised Replacement Cost (DORC) for the assets.

7.3.2 Access Arrangement Proposal

CMS's determination of the Initial Capital Base of the Parmelia Pipeline is described in section 4.1 of the Access Arrangement Information.

CMS adopted a Depreciated Optimised Replacement Cost (DORC) methodology as the primary basis for the determination of the Initial Capital Base for the Parmelia Pipeline. The arguments put forward for using this methodology were:

- it provides appropriate economic signals as to the value of the services being provided because it yields prices consistent with those that would be charged by an efficient new entrant to the market;

- it therefore constitutes an attempt to replicate the outcomes of a competitive market;

[11] 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".

- it avoids the problems associated with the application of different accounting standards over time;

- the optimisation process yields correctly sized assets; and

- it avoids price shocks when assets are replaced.

CMS estimated the Optimised Replacement Cost (ORC) of the pipeline to be in the range $170 million to $253 million, estimated as the sum of ORC of the main pipeline ($157 million to $240 million), the value of other capital assets ($9 million), and the value of working capital ($4.27 million). The range of ORC values and a range of values for asset life were applied as input parameters into a Monte Carlo simulation to determine a probabilistic estimate of the DORC. The simulation used triangular probability distributions for parameters of ORC and asset life, based around most-likely values of $210 million for the ORC (ranging from $170 million to $253 million) and 60 years for asset life (ranging from 42 to 80 years). The probabilistic estimate of the DORC was not provided in the Access Arrangement, but was provided to the Regulator in response to a subsequent request for information. The estimate indicated a most likely DORC value of approximately $114 million, with a range of estimates of approximately $60 million to $160 million.

7.3.3 Submissions from Interested Parties

Use of the DORC Methodology for Determining the Capital Base

- Office of Energy

  As the Office of Energy considers that CMS has not adequately supported its tariff determination using the DORC methodology nor provided sufficient information, it would seem that an alternative, more defensible methodology, such as the Optimised Deprival Value, could be applied to derive an initial capital base value for the Parmelia Pipeline. Given that in its area of operation the Parmelia Pipeline is expected to be over the long term in direct competition with the Dampier to Bunbury Natural Gas Pipeline, the Optimised Deprival Value may be a more meaningful asset base upon which to determine tariffs to provide an outcome which would be competitive with those to be determined for the Dampier to Bunbury Natural Gas Pipeline.

  Although the use of the DORC methodology is well recognised by the Code and to be at or towards the upper end of asset valuations to be considered by the Regulator, in this case the Optimised Deprival Value methodology is more likely to provide better transparency, thus satisfying the requirements of section 2.6 of the Code. Furthermore, the factors the Code requires to be considered in establishing the Initial Capital Base include values that would result from applying other well recognised valuation methodologies. The Optimised Deprival Value is considered by the Office of Energy to be one such methodology, and it is suggested that the Regulator should seek an analysis from the proponent using this methodology and make that analysis available to stakeholders.

- Treasury

  While it is not unusual for owner submissions in respect of access arrangements to focus heavily on presenting the Depreciated Optimised Replacement Cost (DORC) valuation of the capital in question, this is significantly higher than the Depreciated Current Cost valuation in the case in question. As a result the potential for significant under-utilisation of the infrastructure from an economic perspective arises unless the Reference Tariff is based upon a lesser valuation than the DORC.

  It is recognised that one of the considerations in respect of how the Reference Tariff is struck is the avoidance of any sudden spikes in Reference Tariffs as new capacity comes on stream. In this instance, however, there does appear to be a significant amount of unused capacity in the current infrastructure.

- Mobil

  CMS has used the DORC methodology to determine an appropriate cost of capital from which to determine the tariff. The $210 million cost estimate is unrealistic. An upper bound in determining the value of the pipeline should have been the purchase price of the pipeline in 1997 which was believed to be of the order of $130 million. As some of the assets purchased at that time have since been sold for a further $27 million, this suggests that the pipeline assets were worth in the order of $100 million. Thus CMS's valuation of the pipeline is grossly in excess of the open market valuation and therefore questionable.

- Western Power

  CMS has estimated that the Optimised Replacement Cost of the Parmelia pipeline is $210 million and has based the calculation of the Reference Tariff on that figure. The pipeline has been in operation since 1971. At the time of purchase in July 1997 the replacement value of the WAPET Perth Basin assets including the pipeline was estimated at $130 million (see *The West Australian* May 1997). CMS subsequently sold part of its Dongara asset to ARC Energy for an estimated $27 million (see *The West Australian* dated 7 May 1998). The on-sale is believed to include future benefits to CMS arising from additional hydrocarbon recovery. To value an asset at double its cost after two years is a gross over estimate of the asset value.

The advantages and disadvantages of different valuation methodologies for determining the Capital Base, including the Optimised Deprival Value and Purchase Price, are discussed below under the heading "Additional Considerations of the Regulator". The Regulator assessed the estimate of the DORC value proposed by CMS and considers that this estimate is excessively high. On the basis of engineering advice, the Regulator considers a reasonable estimate of the DORC value of the Initial Capital Base to be in the order of $65.8 million. The Regulator also considered valuations of the pipeline based on Depreciated Actual Cost (DAC), Optimised Deprival Value and market value.

The Regulator considers that, in the context of the Access Arrangement for the Parmelia Pipeline, neither DORC nor DAC valuation methodologies are appropriate for valuation of the Initial Capital Base. The economic efficiency arguments put forward by CMS in support of a DORC valuation of the Initial Capital Base are not considered of practical relevance in the situation of the Parmelia Pipeline due to:

i. the low likelihood that the assets would ever be duplicated or completely replaced, given that augmentation of the Dampier to Bunbury Natural Gas Pipeline would be a less costly means of providing the same service potential of the Parmelia Pipeline;

ii. the low likelihood of price shocks arising from asset replacement should tariffs be based on an Initial Capital Base value of less than the DORC;

iii. a DORC value of the Initial Capital Base may provide CMS with a substantial windfall revenue above the earnings from gas transportation that CMS may reasonably have expected at the time of purchase of the pipeline; and

iv. depending upon future throughputs, a DORC value of the Initial Capital Base may lead to substantial increases in what the Regulator believes to be the current tariffs paid for gas transportation in the Parmelia Pipeline.

A DAC valuation methodology is not considered appropriate for valuation of the Initial Capital Base as the DAC value would most likely be less than the reasonable expectation of CMS of the value of the pipeline assets at the time of purchase. For the Parmelia Pipeline the DAC value is expected to be close to zero and would not reflect the capital investment made by CMS in the pipeline in line with reasonable expectations of tariff levels and cash flows.

The Regulator considers that a more appropriate valuation of the Initial Capital Base would be one that sought to reflect the reasonable expectations of CMS at the time of purchase of the pipeline assets, as well as to the reasonable expectations of Users as to the implications of the new regulatory regime. A lower bound for this valuation was assessed by the Regulator as the value of the asset based on the net present value of cash flows from existing contracts plus the value of working capital. This is equivalent to the Optimised Deprival Value and calculated at $36.6 million. This value is substantially less than the envisaged purchase value of the regulated pipeline assets ($72 million). If throughput were assumed to exceed the throughput under existing contracts, then a higher Optimised Deprival Value for the pipeline would result (with the DORC value the maximum value permitted under the Code). However, if this additional throughput did not eventuate, then (all else constant) Reference Tariffs could rise significantly from the commencement of the next Access Arrangement Period. The treatment of this uncertainty associated with future throughput along the Parmelia Pipeline has been one of the central issues for the Regulator.

The Regulator is unwilling to accept a valuation for the pipeline that is predicated on throughput assumptions in excess of current levels unless CMS bears the risk that is associated with this demand not materialising. That is, the Regulator considers that if a higher asset value than that supported by existing tariffs and throughputs is selected, then customers should not bear this risk. Accordingly, the Initial Capital Base should lie in the range of the conservative Optimised Deprival Value of $36.6 million and the DORC value of $65.8 million, with the value dependent upon the allocation of risk associated with future demand.

Estimation of Optimised Replacement Cost

- Office of Energy

  In respect of the Optimised Replacement Cost estimate it is considered necessary for OffGAR to obtain more information as to what assets have been included in the estimate (such as compressor stations), clarify how the engineering determination of the Optimised Replacement Cost was undertaken, and obtain independent verification of the methodology and reasonableness of the engineering estimate.

  OffGAR should also obtain and review the details of the other capital assets and the working capital and be satisfied with the reasonableness of the provisions for these assets. Projected capital expenditures should be reconciled with the Optimised Replacement Cost estimate to ensure there is no double counting (particularly in relation to the compressor stations).

In considering the estimates of ORC provided by CMS, the Regulator obtained technical advice from Connell Wagner. This advice and comments on the validity of the estimated Optimised Replacement Cost are provided below under the heading "Additional Considerations of the Regulator". The Regulator considers that the ORC value derived by CMS is unreasonably high, principally as a result of calculating the ORC on the basis of a large pipeline capacity and throughput that is substantially in excess of current throughput and reasonable expectations of throughput over the Access Arrangement Period. In assessing the ORC and DORC values of the Parmelia Pipeline, the Regulator considered replacement options based on a lower capacity (60 TJ/day) and derived an ORC value of $146 million and a corresponding DORC value of $65 million.

Estimation of Asset Life

- Office of Energy

  The Office of Energy considers that the asset life quoted in the Access Arrangement Information is merely the technical life and no substantiation had been made as to the economic life of the pipeline. This is particularly relevant in the context of the upstream, transport and downstream markets it faces, which are argued as the risk factors in the return desired. This is also significant in the light of the statement in the information document that "the total remaining volumes of gas and associated flow rates from currently producing Perth Basin fields are insufficient to justify the construction of a new pipeline" and thus the availability of gas that could be transported from the Perth basin.

  The economic asset life for establishing the Initial Capital Base of the existing pipeline is particularly important where the asset is relatively old. The longer the asset life assumed the higher the Initial Capital Base for the same level of depreciated life. For the particular tariff determination methodology (NPV) and the rate of return used, the resultant tariffs would be higher with longer asset lives.

In considering the estimates of asset lives provided by CMS, the Regulator obtained technical advice from Connell Wagner. This advice and comments on the validity of the estimated asset lives are provided below under the heading "Additional Considerations of the Regulator". The estimates provided by Connell Wagner are consistent with the estimates provided by CMS for the main and lateral pipelines, but not for other pipeline facilities, SCADA and utilities (15 years rather than 30 years estimated by CMS), and plant, machinery and equipment (15 years rather than 10 years estimated by CMS).

In regard to economic life versus technical life, a lack of information on the gas reserves of the Perth Basin prevents the Regulator from assessing when the pipeline may become redundant through depletion of these reserves. However, the Regulator considers that there is a reasonable prospect for continued use of the Parmelia Pipeline even if the Perth Basin gas reserves are depleted. This use may arise from transport of gas from the Carnarvon Basin via the Dampier to Bunbury Natural Gas Pipeline to the locations currently serviced by the Parmelia Pipeline. Given this, the Regulator considers it reasonable to consider the asset life of the pipeline in terms of technical life.

Estimation of Depreciated Optimised Replacement Cost

- Office of Energy

  The depreciation of the Replacement Cost for the purpose of establishing the Initial Capital Base should be verified by OffGAR. As indicated by CMS, a Monte Carlo Simulation was used in establishing the Initial Capital Base and Residual Value of the pipeline. While the Optimised Replacement Cost value has been shown, the resulting DORC value was not provided and would need to be verified. The parameters used for the simulation particularly in relation to the probability distribution used also need to be verified.

  Using a deterministic calculation and the typical values of Optimised Replacement Cost and asset life (60 years) assumed by CMS, it would appear that the DORC value would be in the order of $112 million (32/60*210M). Section 8.10 of the Code lists a number of factors that should be considered in establishing the Initial Capital Base. The factors include the depreciated actual cost of the pipeline (section 8.10a) and the price paid for any asset recently purchased by the Service Provider and the circumstances of that purchase (section 8.10j). The assessment of the Initial Capital Base needs to be considered in the light of what is understood to be CMS' effective purchase price for the pipeline of less than $93 million and any goodwill that may have been paid. This figure is likely to reflect the prognosis at that time of the pipeline's market and risk into the future and thus the value of the pipeline. It is recognised that this needs to be assessed on the basis of changed circumstances, if any. Neither the purchase price nor the actual historical cost of the pipeline has been presented in the Access Information.

- Office of Energy

  The Office of Energy considers that the Access Arrangement Information, including the additional information provided by CMS on 22 June 1999 and 2 July 1999, does not allow third parties to understand the significant tariff components of the Access Arrangement, with the information regarding the asset valuation being particularly open to interpretation. This is due to inherent uncertainties associated with calculating a representative value for the DORC, using a probabilistic rather than a deterministic methodology, the use of the Monte Carlo Simulation which obscures the DORC calculation, and a general lack of other key information.

- AlintaGas

  A high asset valuation contributes to a very high Reference Tariff.

In assessing the Access Arrangement, further information was requested and received from CMS regarding the estimated DORC value. The probabilistic estimate of the DORC value indicated a most likely DORC value of approximately $114 million, with a range of estimates of approximately $60 million to $160 million. The validity of this estimate was assessed by the Regulator and the outcomes of this assessment are provided below under the heading "Additional Considerations of the Regulator".

The Regulator has no in-principle concern with the use of a Monte Carlo simulation methodology to estimate a DORC value. However, this stochastic methodology is considered to have little advantage over a deterministic methodology in cases such as with the CMS determination of the DORC value where the probability distributions for input variables are defined as close to symmetrical and the most-likely value from the stochastic calculation is close to the value that would be derived from a deterministic calculation using the typical values of input variables. As such, the stochastic methodology is considered to add complexity to the calculations with no substantive benefit and with the disadvantage of increasing the difficulty of persons in understanding the derivation of the Initial Capital Base. Furthermore, regardless of the methodology used to calculate the DORC, the values of input variables to the calculation, including the probability distributions for variables in a stochastic calculation, need to be adequately substantiated. The Regulator considers that probability distributions of variables were not adequately substantiated in the DORC calculation by CMS and were largely arbitrarily defined.

A further deficiency of the stochastic determination of the Initial Capital Base is that CMS has not nominated a unique value of the Initial Capital Base that will form the basis for valuing the Capital Base in the future. The Code requires that the value derived for the Initial Capital Base be used to calculate the value of the Capital Base in the future, taking into account depreciation, capital expenditure and inflation. There is an implicit requirement that the Initial Capital Base be specified as a single figure.

In assessing the DORC estimate made by CMS, the Regulator verified the CMS calculations by both stochastic and deterministic calculations using the parameter values and probability distributions provided by CMS in the Access Arrangement Information. The Regulator is satisfied that the calculations were reproducible for the given values of input variables. However, the Regulator gave consideration to both the values of input variables to the DORC calculation and the in-principle suitability of the DORC as a basis for establishing the Initial Capital Base. These considerations are described below and gave rise to a conclusion that the value of the Initial Capital Base should be substantially lower than proposed by CMS.

7.3.4 Additional Considerations of the Regulator

Asset Valuation And Economic Principles

The intent of the general Reference Tariff objectives specified in section 8.1 of the Code is 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. In broad terms, tariffs should be sufficient to motivate a Service Provider to invest in assets and to provide transportation services to an extent compatible with the value placed on those services by Users. However, tariffs should not be so high as to allow a Service Provider to capture returns in excess of those necessary to cover reasonable costs (including reasonable returns to investment) or to motivate inefficient duplication of pipeline infrastructure.

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 (ie. 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. For an existing pipeline, estimation of efficient prices is more complex. As a lower bound, 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 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 in section 8.11 of the Code as the DORC.

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 its discretionary powers in other areas 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 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 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 CMS's determination of the 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). No information was provided by CMS in respect of such a valuation of the Parmelia Pipeline.

A DAC value of the Parmelia Pipeline may be difficult to estimate given the long history of the Pipeline, the change in ownership of the pipeline assets, and operation of the pipeline in association with gas production and selling activities of the previous pipeline owner. Notwithstanding this, however, the Regulator expects the DAC value of the Parmelia Pipeline to be close to zero. The pipeline was initially constructed by a private corporation in 1971 and operated under authority of a pipeline licence with a term of 21 years, ending in 1994. It is likely that the original owners of the pipeline would have fully depreciated the principal pipeline assets within the term of the original licence, resulting in a zero DAC value of these assets at the current time. Positive DAC

valuations may accrue to peripheral assets, however it is unlikely that the DAC valuation of these peripheral assets would be significant.

CMS has specified working capital to the value of $4.27 million to be included in the Initial Capital Base. Working capital can be broadly defined as the funds employed by a business in overcoming current expenditure shortfalls plus the value of linepack, which is the working stock of gas in the pipeline that is owned by the Service Provider. For regulatory purposes the exact approach in estimating working capital varies, however a reasonable approach is to benchmark working capital, minus the value of linepack, as a proportion of annual operating expenditure. A comparison of working capital estimates for different gas pipelines in Australia is provided below.

Pipeline	Definition of Working Capital	Working Capital Estimate (exclusive of linepack)	Operating Expenditure	Working Capital as a Proportion of Operating Expenditure
CMS[12]	Sum of financial reserves and initial pipeline linepack inventory	$4.07m*	$3.855m	105%
AGLP[13]	Not specified.	$0.01m	$0.7417m	1%
EAPL[14]	Financial reserves required to bridge the gap between the time at which expenditures are incurred to provide service and the time collections are received for that service.	$0.767m	$12.179m	6%
EPIC[15]	Not specified.	$0.82m	$14.972m	5%
NT Gas[16]	Funds required for day to day pipeline operation equal to accounts payable minus accounts receivable plus taxation payable.	-$0.28m	$6.723m	-4%
TPA[17]	Not specified.	$0.64m	$20.72m	3%

*Advice to the Regulator from Connell Wagner is that the value of linepack in the Parmelia Pipeline would be in the order of $200,000, even assuming the pipeline is operated at capacity (86 TJ/day).

[12] Parmelia Pipeline as per the current Access Arrangement.

[13] AGL Pipelines Limited, Central West Pipeline Access Arrangement December 1998.

[14] East Australian Pipeline Limited, Moomba to Sydney Pipeline Access Arrangement May 1999.

[15] Epic Energy Pty Limited, Moomba to Adelaide Pipeline Access Arrangement April 1999

[16] NT Gas Pty Ltd, Amadeus Basin to Darwin Pipeline Access Arrangement June 1999.

[17] TPA, Victorian Gas Transmission Access Arrangement, ACCC Draft Decision May 1998.

The working capital specified by CMS is substantially in excess of that proposed for other pipelines both as an absolute figure and as a proportion of Operating Expenditure. Given this, the working capital estimate of CMS appears excessive. On the basis of working capital estimates for other pipelines, a reasonable estimate of the working capital requirement for the Parmelia Pipeline is considered to be $300,000 to fund day to day pipeline operations and a maximum of $200,000 for linepack inventory, giving a total of $500,000.

Taking into consideration the small DAC values that may apply to some assets of the Parmelia Pipeline and a working capital value of $0.5 million, a valuation of the Initial Capital Base derived from a DAC value is considered unlikely to exceed a few million dollars. For the purposes of the current evaluation of the Initial Capital Base it will be assumed to be close to zero.

(b) The value that would result from applying the Depreciated Optimised Replacement Cost methodology in valuing the Covered Pipeline (Code section 8.10(b)).

CMS used a probabilistic DORC estimate as the Capital Base for the determination of Reference Tariffs. The estimate indicated a most likely DORC value of approximately $114 million, with a range of estimates of approximately $60 million to $160 million, including the working capital estimate of $4.27 million.

A deterministic estimate of the DORC value can be calculated using the parameters of asset value and expected asset life provided by CMS. CMS estimated the Optimised Replacement Cost of the pipeline to be in the range $170 million to $253 million, with an assumed typical value of $210 million, and an average economic life of assets of 60 years. With the pipeline already being 28 years old, CMS's expected remaining economic life is 32 years. Using a straight line depreciation method, a deterministic estimate of the DORC is therefore:

$$\$210 \text{ million} \times \frac{32}{60} = \$112 \text{ million}.$$

This estimate of the Initial Capital Base is close to the most-likely Initial Capital Base value derived by CMS using a Monte-Carlo simulation methodology ($114 million). The difference is due to the probability distributions for ORC and asset life being slightly skewed towards higher values.

In order to further evaluate CMS's estimate of a DORC value, technical advice was obtained from Connell Wagner on the parameter values used by CMS, in particular the ORC. A preliminary review by Connell Wagner indicated that the DORC may be in the order of $78 million, derived from an ORC estimate $146 million and depreciation over a single economic asset life of 60 years, with a remaining asset life of 32 years. The DORC estimate was made under the following assumptions.

- Pipeline design parameters of:
  - maximum throughput of 60 TJ/day;
  - pipeline length of 416 km;
  - Perth metropolitan load of 40 TJ/day;
  - Pinjarra load of 20 TJ/day;

  - pipe construction of X70 material, externally and internally coated;
  - compression designed to boost pressure from 7.4 MPa;
  - compressor size adjusted to the nearest commercially available unit; and
  - two compressor units (100 percent redundancy) at each compressor station.

- Application of current technology.

- Application of standard engineering practice to the optimisation of pipeline facilities and sizes.

- Inclusion of interest during construction but not linepack value or native title costs, the latter based on an assumption of the Parmelia Pipeline occupying an existing right-of-way.

- Application of a single economic asset life of 60 years for all assets for the purposes of depreciation.

Several design/configuration options were considered in the determination of an ORC for the pipeline with a range of pipeline sizes, gas pressures, one or two maintenance bases, and pressure reductions for the Perth to Pinjarra section of the pipeline. All options involved a "telescopic" pipeline construction with a smaller diameter pipeline for the Perth to Pinjarra section. ORC values for the options considered ranged from $146 to $162 million, with a corresponding range of DORC values from $78 to $86 million. The least-cost DORC option (DORC value of $78 million) was for a "high" pressure pipeline with a maximum allowable operating pressure of 15 MPa and the following configuration.

- Ten-inch diameter steel pipeline with 8.58 mm wall thickness between Dongara and Perth, and a six-inch diameter steel pipeline with 5.29 mm wall thickness between Perth and Pinjarra.

- Eight class 900 main line valves and four pig launcher and receiver sites.

- Meter stations similar to existing assets except for differences associated with re-rating at class 900 and meter accuracy improvements.

- One unmanned compressor station comprising two 5,000 kW compressor units.

- Two maintenance bases, one in Dongara to support operation of the compressor station and one in Perth to support pipeline maintenance.

A comparison of the derived ORC and DORC values with the values proposed by CMS is as follows.

Asset Group	Valuation ($million)	
	CMS Typical Value*	Connell Wagner Preliminary Estimate
Pipeline mainline	115	80
Laterals	7	8
Compression	14	17
Metering	16	4
Other pipeline facilities SCADA and utilities	16	7
Property	0	3
EPCM**; land management; compensation and contingency	42	12
Plant, machinery and equipment	1	2
Interest during construction	0	13
TOTAL ORC	**210**	146
DORC (remaining asset life of 32 years)	**112**	**78**

* Calculated by a proportional reduction of CMS's stated maximum asset values by the ratio of the maximum Capital Base estimate to the typical Capital Base estimate (210/253)
****** Engineering, procurement, construction and management

The Regulator was concerned that the above estimates of the DORC may be biased by the assumption of an economic life of all assets of 60 years. This value was not determined as a weighted average across asset classes.

Estimates of asset lives for different classes of assets were provided by CMS in section 4.2.1 of the Access Arrangement Information. In considering the estimates of asset lives provided by CMS, the Regulator obtained technical advice from Connell Wagner. Advice was provided on reasonable expectations of asset lives for different asset classes, based on an assumption of prudent monitoring and maintenance. The advice on asset lives was not based on an extensive review of the Parmelia Pipeline's design life or the current pipeline condition.

The estimates of asset lives provided by CMS and Connell Wagner are shown below. The estimates provided by Connell Wagner are consistent with the estimates provided by CMS for the main and lateral pipelines, with the exception of higher asset lives of "other pipeline facilities, SCADA and utilities" (15 years rather than 10 years estimated by CMS), and a higher expected asset life for "plant, machinery and equipment" (15 years rather than 10 years estimated by CMS).

Asset Class	Assumed Asset Life (years)	
	CMS	Connell Wagner
Main pipeline	70	70
Lateral pipelines	70	70
Compressor stations	30	30
Metering equipment	30	50
Other pipeline facilities, SCADA & utilities	10	15
EPCM*; land management; compensation and contingency	10	10
Plant, machinery and equipment	10	15

* Engineering, procurement, construction and management

In order to assess this potential bias in DORC estimates arising from the assumption of asset life of 60 years across all assets, DORC values were re-estimated by calculating DORC values individually for different classes of assets, taking into account different asset lives as estimated by Connell Wagner, and then summing these values to obtain a total DORC value. The assumed parameter values and resultant DORC values from this calculation are indicated as follows for both a deterministic estimate of the DORC using ORC values derived by CMS, and using ORC values derived by Connell Wagner.

Asset Class	Optimised Replacement Cost		Total Economic Life	Residual Economic Life	DORC	
	CMS	Connell Wagner			CMS	Connell–Wagner
	$million	$million	Years	Years	$million	$million
Main pipeline	115	80	70	42	69	48
Lateral pipelines	7	8	70	42	4	4.8
Compressor stations	14	17	30	2	1	1.1
Metering equipment	16	4	50	22	7	1.8
Other pipeline facilities, SCADA & utilities	16	7	15	0	0	0
Property	0	3	70*	42	0	1.8
EPCM**; land management; compensation and contingency.	42	12	10	0	0	0
Plant, machinery and equipment	1	2	15	0	0	0
Interest during construction	0	13	70*	42	0	7.8
TOTAL	**210**	146	-	-	**81**	**65.3**

* Property and interest during construction were assumed to be depreciated over the entire asset life of the main pipeline
** Engineering, procurement, construction and management

The CMS estimate of the DORC includes a component of working capital of $4.27 million. Thus the Initial Capital Base determined from the DORC value is the same as above, equal to $81 million. Deriving an Initial Capital Base from the DORC value based on the Connell Wagner ORC values requires adding the value of working capital to the DORC value. CMS assumed a value of $4.27 million as working capital. However, as discussed above in relation to a DAC value, this value is considered unreasonably high and a value of $0.5 million considered more appropriate. Adding $0.5 million of working capital to this DORC values gives a valuation of the Initial Capital Base of $65.8 million.

(c) The value that would result from applying other well recognised asset valuation methodologies in valuing the Covered Pipeline (Code section 8.10(c)).

The Regulator considered two other asset valuation methodologies in assessing the proposed Capital Base valuation for the Parmelia Pipeline.

i. Optimised Deprival Value: 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. For the purposes of this Draft Decision, the 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 ORC value) and the income generating capacity of the asset.[18]

ii. Sale value: the valuation of the asset implicit in an arms length sale of the asset.

Valuation of the Initial Capital Base by these two methodologies is considered below.

Optimised Deprival Value

Calculation of an Optimised Deprival Value requires estimation of the net present value of cash flows and therefore assumptions of tariffs for gas transport. An estimate of the net present value of the Parmelia Pipeline was considered to be that derived from cash flows from existing gas transportation contracts. Information on gas transportation and revenues under existing contracts was provided by CMS in sections 6.2.2 and 7.5.4.5 of the Access Arrangement Information. Information provided by CMS to the Regulator indicates a current average tariff for the Parmelia Pipeline of $0.55/GJ.

On the basis of the current average tariff, net present values of cash flows were estimated for expected cash flows over a 42 year period, corresponding to the remaining life of the main pipeline. Pipeline throughput was assumed to be equal to throughputs under existing contracts for the first five years and 30 TJ/day thereafter. Capital expenditure and operating expenditure were based on a breakdown of these expenditures provided to the Regulator on a confidential basis by CMS, and adjusted to remove that expenditure attributable to increases in pipeline throughput beyond the throughput attributable to existing contracts. These parameter values are summarised as follows.

Parameter	Assumed Parameter Values					
	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6 to 32
Pipeline throughput	29.0 TJ/day	29.6 TJ/day	30.2 TJ/day	30.2 TJ/day	30.2 TJ/day	30.2 TJ/day
Capital expenditure	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000
Operating expenditure	$2,657,000	$2,132,000	$1,869,000	$2,657,000	$2,657,000	$2,657,000

A discount rate of 8.3 percent was used, based on a reasonable value of the weighted average cost of capital (as determined in section 7.6 of this Draft Decision). The derived net present value was $36.1 million

This estimate is less than estimates of ORC values for the Parmelia Pipeline as calculated by CMS and by Connell Wagner. Consequently the estimated Optimised Deprival Value comprises the net present value of cash flows. The valuation of the Initial Capital Base based on the Optimised Deprival Value is therefore the net present value plus the operating capital (determined as $0.5 million). On this basis, the resultant valuation of the Initial Capital Base is $36.6 million.

[18] Bonbright, J.C., 1937. T*he Valuation of Property*, The Mitchie Company.

An Optimised Deprival Value methodology would ascribe a higher value to the Initial Capital Base if higher values were assigned to expectations of future tariffs and/or pipeline throughputs. However, no substantiated projections of either parameter were provided to the Regulator by CMS and consequently could not be used to assign an Optimised Deprival Value to the Initial Capital Base. In addition, if rising throughput were taken into account when deriving the Initial Capital Base but that increase in throughput did not eventuate, then Reference Tariffs would rise significantly from the commencement of the next Access Arrangement Period over current levels. Contemplation of a higher Initial Capital Base would need to take into account the spread of risk between the Service Provider and Users of expected increases in throughput not being realised. This is further discussed below.

Sale Value

The sale value of the Parmelia Pipeline can be ascertained from the sale prices of the pipeline and associated assets when purchased by CMS from WAPET in 1997, corrected for the subsequent sale by CMS of several assets, and for the value of non-regulated assets that comprised part of the sale. Sale prices of assets were not provided by CMS in the Access Arrangement Information, nor were subsequently provided to the Regulator. An estimate of the implicit purchase price of the pipeline was, however, derived from information in the public domain and estimates of the value of certain non-regulated assets. This estimation is outlined as follows.

Market Transaction	**Value ($million)**
CMS purchase of WAPET assets (1997)	130
CMS sale of Dongara gas fields (1988)	(28)
Estimated value of non-regulated assets (gas gathering processing and storage facilities)	(30)
Estimated implicit purchase price of regulated assets	**72**

Adding working capital ($0.5 million) to the estimated market value of the regulated pipeline assets gives a valuation of $72.5 million.

(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 is as follows.

Valuation Methodology	Initial Capital Base
CMS DORC valuation (typical value)	$114 million
Deterministic DORC valuation using CMS's "most likely" parameter values	$112 million
DORC valuation with asset life classes – CMS ORC value	$81 million
DORC valuation with asset life classes – Connell Wagner ORC values	$65.8 million
Optimised Deprival Value (existing contracts and average tariff of $0.58/GJ)	$36.6 million
Implicit purchase price of regulated assets	$72.5 million
DAC valuation	Close to zero

Advantages and Disadvantages of a DORC Valuation of the Initial Capital Base

There are four in-principle advantages of a DORC valuation of the Initial Capital Base, discussed as follows.

Firstly, DORC valuations have been used for several other regulated pipelines and other regulated infrastructure in Australia. Use of a DORC valuation would arguably be consistent with expectations of the gas transportation industry.

Secondly, a DORC valuation of the Initial Capital Base would result in tariffs that would be the same as tariffs that would be charged by an efficient new entrant into the market. Consequently tariffs based on a DORC valuation of the Capital Base arguably replicate the tariff outcomes of a competitive market, and result in tariffs becoming established at minimum sustainable levels over the long term. Accordingly, tariffs based on an Initial Capital Base that is greater than the DORC value can be considered to include monopoly rents. However, as the cheapest means of replacing the service potential of the Parmelia Pipeline may not be replacement of the pipeline, but rather augmentation of the Dampier to Bunbury Natural Gas Pipeline, the cost of this augmentation is arguably a more appropriate basis for a DORC value than the cost of replacing the Parmelia Pipeline.

Thirdly, if it is likely that the replacement of the assets will become necessary, then basing tariffs on a DORC valuation 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. 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. 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, and replacement generally subsumed into activities of maintenance and upgrades. 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, a DORC estimate of the Initial Capital Base arguably would not result in tariffs that are so high as to motivate inefficient duplication of pipeline assets. However, this

assumes that any provision of services by a second Service Provider would require duplication of the asset. For the Parmelia Pipeline, additional provision of services would not necessarily involve duplication of the pipeline. Augmentation of the Dampier to Bunbury Natural Gas Pipeline and/or extension of another pipeline network to customers currently serviced by the Parmelia Pipeline may constitute inefficient asset investment if it is motivated by excessively high tariffs for the Parmelia Pipeline and associated high gas charges.

The principal disadvantage of a DORC valuation of the Initial Capital Base arises from the current situation where the Parmelia Pipeline is operated at substantially less than its capacity. As a consequence, unless there is a significant increase in throughput, th a DORC valuation of the Initial Capital Base may lead to Reference Tariffs rising significantly from their current levels. This would result in Users paying higher tariffs than they reasonably could have expected under the new regulatory regime, and lead to the Service Provider earning a greater return than it reasonably could have expected to result under the regulatory regime. As noted above, the Regulator considers that CMS should not reasonably have expected an Initial Capital Base of more than $36.6 million (being the Optimised Deprival Value based on the throughputs in existing contracts) if demand remained at current levels.

Overall, the merit of a DORC valuation of the Parmelia Pipeline is eroded by the low likelihood that the pipeline would ever be replaced. While a DORC valuation may still comprise the maximum of the range of values that may be assigned to the Initial Capital Base of the Parmelia Pipeline, this valuation would not be justifiable if it resulted in windfall returns to CMS above reasonable expectations, or imposes significant risks on Users.

Advantages and Disadvantages of a DAC Valuation of the Initial Capital Base

A DAC valuation of the Initial Capital Base takes into account the actual construction cost of the assets and depreciation of the asset to the present. In principle, a DAC valuation is auditable, as it is based on actual records of past capital expenditure and revenues.

A DAC valuation would be consistent with the observation that the Parmelia Pipeline is an old pipeline that had a high rate of utilisation prior to the construction of the DBNGP and so arguably has already performed the service for which it was originally constructed. If the asset had always delivered a reasonable accounting rate of return (which is considered likely for the Parmelia Pipeline), then a tariff based on the DAC valuation would provide a reasonable return on the original investment of the Service Provider.

In the context of the Parmelia Pipeline, the disadvantage of a DAC valuation is that it does not recognise the investment of CMS in purchasing the pipeline asset. Although the DAC value for the Parmelia Pipeline is expected to be close to zero, the pipeline would have been purchased at a price reflecting expectations of future profits able to be generated from provision of gas transportation services. Determination of tariffs on the basis of a DAC valuation of the Initial Capital Base would therefore place a value on CMS's investment that is less than CMS may reasonable have expected when the pipeline was purchased.

Advantages and Disadvantages of an Optimised Deprival Value Valuation of the Initial Capital Base

The 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 market value of the asset and hence the net present value of the asset in generating a future profit stream. As the market value represents the opportunity cost to the 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 guarantee a reasonable rate of return to an Initial Capital Base valued as a net present value of future returns, and the net present value of future returns depends on expected regulated tariffs.

Notwithstanding this, in a situation of 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. Accordingly, this approach can be used to derive the Initial Capital Base that would be consistent with views about the reasonable expectations of the asset owner, prior to this 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 under the Code. 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.

Advantages and Disadvantages of a Sale Price Valuation of the Initial Capital Base

The sale price of an asset in an arms length transaction would be based on expectations of a future profit stream able to be derived from the asset. Given this, the sale price of an asset might provide a more accurate view of the expectations of the purchaser at the time of the sale of asset. That said, however, the sale price of a regulated asset might also reflect many other factors. For example it could reflect the expected benefits from being able to outperform against the benchmarks that are used to set regulated tariff's (and so earn higher profits), or a view that the Regulator is likely to use a higher rate of return to set tariff's than the firm's estimate of its Cost of Capital, or it could reflect the value of the synergies between regulated services and non-regulated activities. It is noted that the regulated gas distribution companies recently were sold in Victoria for prices equal to about twice the regulatory asset values of those businesses.

On the basis of information available to the Regulator, the value of the Initial Capital Base derived from the estimated implicit purchase price of the Parmelia Pipeline ($72.5 million) exceeded the value derived from the estimated net present value of the pipeline calculated on the basis of existing contracts ($36.6 million). The margin of estimated purchase price over the net present value may result from such matters as listed above.

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 Parmelia Pipeline indicate that there is no single valuation methodology that stands out as an obvious choice.

A DORC valuation of the Initial Capital Base has the in-principle advantages of being consistent with the long-term efficient tariff levels that would exist in a competitive market and provide signals to potential investors in pipeline assets that regulated tariffs will provide for adequate returns on capital. A DORC valuation would also be consistent with regulatory precedent in Australia. However, as discussed above, these advantages are considered to be of less significance in the situation of the Parmelia Pipeline. The primary disadvantage of the DORC valuation is that, over the short to medium terms, it may result in an asset value above the value that the pipeline owner could reasonably have expected under the Code unless there is a significant increase in throughput. A DORC valuation may therefore result in higher costs to businesses using gas transported through the pipeline (or impose significant risk of higher costs in the future).

A DAC valuation of the Initial Capital Base, on the other hand, may not provide a Service Provider that has purchased the pipeline asset with a value consistent with reasonable expectations, particularly for the Parmelia Pipeline where the DAC value is likely to be close to zero.

The purchase price of the pipeline in an arms length transaction provides an indication of the purchaser's expectations of the net present value of cash flows from the asset. Any purchase price, however, is likely to recognise benefits that will arise under an incentive regulation regime, as well as benefits derived from synergies between the regulated activities and other, non-regulated, activities of the Service Provider.

To determine the appropriate methodology for assigning a value to the Initial Capital Base for the Parmelia Pipeline, it is necessary to consider the different methodologies in the specific context. 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. Furthermore, the low likelihood of replacement of the pipeline and/or duplication of the pipeline means that the conventionally measured DORC may significantly overstate the upper-limit valuation suggested by economic theory. It is considered that the DAC value does not constitute an appropriate lower bound value for the Initial Capital Base. By virtue of age and past depreciation, the DAC value of the Parmelia Pipeline would be close to zero. However, CMS purchased the pipeline at a cost estimated by the regulator to be substantially greater than the DAC value. Given this, it is considered appropriate that the lower bound on valuation of the Initial Capital Base be the Optimised Deprival Value of the asset based on the economic value current contracts for gas transportation assuming that these contracts would continue for the remainder of the economic life of the principal pipeline assets. This Optimised Deprival Value is considered to comprise a conservative assessment of reasonable expectations of the asset value at the time of purchase.

The Regulator considers that an Optimised Deprival Value methodology is appropriate for valuing the Initial Capital Base of the Parmelia Pipeline. As noted above, however, the Optimised Deprival Value for the pipeline depends upon the assumptions that are made about future throughputs. While the Regulator considers that CMS should have the

opportunity to grow the market (and have this reflected in the Capital Base), albeit this raises the issues of who should bear the risk associated with this demand materialising. In accordance with provisions of the Code, however, a DORC value still comprises the maximum value that may be ascribed to the Initial Capital Base by an Optimised Deprival Value methodology.

Lower and upper bounds on an acceptable value for the Initial Capital Base are therefore an Optimised Deprival Value, calculated from throughputs and tariffs of current contracts, and a DORC value, respectively. On the basis of the information available to the Regulator at the time of drafting of this Draft Decision, the permissible range of values for the Initial Capital Base is considered to be $36.6 million to $65.8 million.

(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 did, however, note that DORC valuations of the Initial Capital Base have generally been accepted by regulatory agencies in the eastern states of Australia.[19]

(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)).

CMS did not provide information to the Regulator in respect of the basis on which tariffs have been determined in the past, or the historical returns to either CMS or the previous owner of the Parmelia Pipeline. As indicated elsewhere in this section of the Draft Decision, the Regulator requires CMS to provide additional information before a final valuation of the Initial Capital Base will be approved. The required information relates to CMS's reasonable expectations of the asset value of the Parmelia Pipeline at the time of purchase. The historical basis for the setting of tariffs may have had some bearing on these expectations and thus pertinent to the Regulator's consideration of the Initial Capital Base.

As indicated above in discussion of a DAC valuation of the Initial Capital Base, it is expected that the original owners of the pipeline would have fully depreciated the principal pipeline assets within the term of the original licence, resulting in a zero DAC value of the major assets at the current time.

[19] Office of the Regulator General, Victoria, October 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; ACCC, 1999. Draft 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 Australia (Assets) Pty Ltd for the Western Transmission System; and by Victorian Energy Networks Corporation for the Principal Transmission System.

(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)).

CMS acquired an interest in the Parmelia Pipeline while it was regulated under the *Petroleum Pipelines Act 1969*. However, CMS would have known of the intention to introduce the Code at the time of purchase (1997), and would have had access to draft versions of the Code were publicly available at the time. As a result, it is not reasonable to consider that the previous regulatory regime influenced the expectations of CMS in respect of the value of the Parmelia Pipeline.

Even if ownership of the Parmelia Pipeline had not changed, the asset owner could not reasonably have expected to raise tariffs above prevailing levels as a result of being bought under the Code. The Optimised Deprival value of $36.6 million, based on existing contracts, thus provides a conservative estimate of the value that would be consistent with the reasonable expectations of the asset owner.

(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.[20]

Under this criterion, a DORC valuation may not be appropriate for the Parmelia Pipeline. Tariffs arising from a DORC valuation may create an incentive for augmentation of the Dampier to Bunbury Natural Gas Pipeline as demand rises, rather than using available capacity on the Parmelia Pipeline. This would not result in the forward looking cost of gas transportation being minimised.

(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 value of the Initial Capital Base not be so high as to result in Reference Tariffs that motivate inefficient duplication of pipeline infrastructure. An upper bound on the Initial Capital Base of a DORC value is consistent with this requirement.

[20] 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.

(j) The price paid for any asset recently purchased by the Service Provider and the circumstances of that purchase (Code section 8.10(j)).

As discussed above, the regulated assets of the Parmelia Pipeline were purchased by CMS through an arms length transaction in 1997. The implicit price of the regulated pipeline assets is estimated by the Regulator at $72 million. As described above, it was assessed by the Regulator that the purchase price is likely to include the value of a number of additional matters that should not be included in the Initial Capital Base.

(k) Any other factors the Relevant Regulator considers relevant (Code section 8.10(k)).

The Regulator did not consider that there were any additional factors, not already discussed above, warranting consideration in respect of the basis for valuation of the Initial Capital Base.

Conclusion

The Regulator considers that, in the context of the Access Arrangement for the Parmelia Pipeline, neither DORC nor DAC valuation methodologies necessarily provide an appropriate means for valuing the Initial Capital Base. The economic efficiency arguments put forward by CMS in support of a DORC valuation of the Initial Capital Base are not considered of practical relevance in the situation of the Parmelia Pipeline due to:

i. the low likelihood that the assets would ever be duplicated or completely replaced; and

ii. the low likelihood that a value of the Initial Capital Base of less than the DORC would result in price shocks to Users at a time of asset replacement.

A DORC methodology is, therefore, considered inappropriate for valuing the Initial Capital Base of the Parmelia Pipeline. Notwithstanding this, a DORC value should in this instance comprise the maximum value able to be ascribed to the Initial Capital Base by other valuation methodologies.

A DAC valuation methodology is not considered appropriate for valuation of the Initial Capital Base due to it not reflecting the capital investment made by CMS in the pipeline in line with reasonable expectations of tariff levels and future cash flows.

The Regulator considers that an Optimised Deprival Value methodology is appropriate for valuing the Initial Capital Base of the Parmelia Pipeline. Depending on assumptions of future throughput, the value derived by this methodology may be equal to the DORC valuation at the maximum.

Lower and upper bounds on an acceptable value for the Initial Capital Base are an Optimised Deprival Value, calculated from throughputs and tariffs of current contracts, and a DORC value, respectively. On the basis of the information available to the Regulator at the time of drafting of this Draft Decision, the acceptable range of values for the Initial Capital Base is considered to be $36.6 million to $65.8 million.

A difficulty with the Optimised Deprival Value methodology is that the valuation of the Initial Capital Base depends upon expectations of future costs and revenues in operation of the Parmelia Pipeline. It cannot be known with certainty at the time of establishing the Initial Capital Base whether stated expectations are accurate. While a conservative estimate of an

Optimised Deprival Value based on existing service contracts is more likely to be regarded as reasonable, such a conservative estimate may also be unduly harsh on the Service Provider in not allowing for an asset value associated with potential market growth. Furthermore, the Code makes no provision to revise the Initial Capital Base upwards if the initial valuation was ultimately to prove too conservative, thus penalising the Service Provider. On the other hand, a more lenient treatment of the Initial Capital Base that takes into account expectations of market growth may unreasonably penalise Users, through higher tariffs in the future, if the demand expectations are not realised.

In nominating a reasonable value for the Initial Capital Base within the acceptable range, the Regulator gave consideration to the interests of CMS and Users, including CMS's expectations of market growth for the pipeline. The Regulator considers that CMS should be provided with the opportunity to raise demand, and have this reflected in the Capital Base, but that Users should not bear the risk associated with the increase in demand not materialising. In balancing the interests of CMS and Users, the Regulator concluded that a value of the Initial Capital Base of greater than the conservative Optimised Deprival Value, reflecting expectations of market growth, may be acceptable if:

- a mechanism is put in place in the Access Arrangement that will see the Capital Base reduced at the end of the Access Arrangement Period if expectations of market growth are not realised; and

- the higher value of the Initial Capital Base does not give rise to Reference Tariffs above the current average tariff for the Parmelia Pipeline.

A mechanism for reduction the Capital Base at the end of the Access Arrangement Period if market growth does not materialise is provided for in the Redundant Capital provisions of the sections 8.27 and 8.28 of the Code. These provisions allow for the Capital Base of a Covered Pipeline to be reduced at the commencement of an Access Arrangement Period in response to a decline in the volume of sales of services provided by means of the Covered Pipeline. The Regulator considers that the principle of Redundant Capital may be used to reduce the value of the Capital Base of the Parmelia Pipeline in the event that expectations of market growth and increased pipeline throughput, implicit in establishing the Initial Capital Base, are not realised.

The Regulator's estimates of Reference Tariffs that would result from different valuations of the Initial Capital Base are described in section 7.8 of this Draft Decision. An indicative Reference Tariff of $0.57/GJ would arise from the maximum value of the Initial Capital Base ($65.8 million) and allowing for an increase in throughput to 60 TJ/day by the end of the Access Arrangement Period. The Regulator considers this tariff to be unacceptable as it is greater than the current average tariff for the Pipeline. To determine an acceptable value of the Initial Capital Base, the Regulator calculated the value that would return a Reference Tariff of $0.55/GJ under the same assumptions of increasing throughput. This value of the Initial Capital Base is $62.5 million, including $0.5 million for working capital.

The Regulator is therefore willing to accept a value of the Initial Capital Base of $62.5 million subject to:

i. CMS making a corresponding assumption of high growth in throughput (to 60 TJ/day over the Access Arrangement Period) in the calculation of Reference Tariffs; and

ii. CMS amending the Access Arrangement to include a Redundant Capital Policy that states principles for reduction of the Capital Base at the end of the Access Arrangement Period if the assumed market growth does not materialise.

7.3.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of valuation of the Initial Capital Base.

Required amendments to the Access Arrangement are as follows.

- The value of the Initial Capital Base used for the purposes of calculating Reference Tariffs should be altered to a value of $62.5 million, including a working capital component of $0.5 million.
- The Access Arrangement should be amended to include a Redundant Capital Policy that provides for the Capital Base to be reduced at the end of the Access Arrangement Period if the expectations of market growth are not realised.

7.4 CAPITAL EXPENDITURE

7.4.1 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 provisions of the Code dealing with Capital Expenditure are as follows.

> 8.15 New Facilities Investment. The Capital Base for 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.
>
> 8.16 The amount by which the Capital Base may be increased is the amount of the actual capital cost incurred (New Facilities Investment) provided that:
>
> (a) that amount 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.

8.17 For the purposes of administering section 8.16(a), the Relevant Regulator must consider:

(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.

8.18 A Reference Tariff Policy may, at the discretion of the Service Provider, state that the Service Provider will undertake New Facilities Investment that does not satisfy the requirements of section 8.16. If the Service Provider incurs such New Facilities Investment, the Capital Base may be increased by that part of the New Facilities Investment which does satisfy section 8.16 (the Recoverable Portion).

8.19 The Reference Tariff Policy may also provide that an amount in respect of the balance of the New Facilities Investment may subsequently be added to the Capital Base if at any time the type and volume of services provided using the increase in Capacity attributable to the New Facility change such that any part of the Speculative Investment Fund (as defined below) would then satisfy the requirements of section 8.16. The amount of the Speculative Investment Fund at any time is equal to:

(a) the difference between the New Facilities Investment and the Recoverable Portion, less any amount the Service Provider notifies the Relevant Regulator (at the time the expenditure is incurred) that it has elected to recover through a Surcharge under section 8.25 (Speculative Investment); plus

(b) an annual increase in that amount calculated on a compounded basis at a rate of return approved by the Relevant Regulator which rate of return may, but need not, be different from the rate of return implied in the Reference Tariff; less

(c) any part of the Speculative Investment Fund previously added to the Capital Base under this section 8.19.

8.20 Forecast Capital Expenditure. Consistent with the methodologies described in section 8.4, Reference Tariffs may be determined on the basis of New Facilities Investment that is forecast to occur within the Access Arrangement Period provided that the New Facilities Investment is reasonably expected to pass the requirements in section 8.16 when the New Facilities Investment is forecast to occur.

8.21 If the Relevant Regulator agrees to Reference Tariffs being determined on the basis of forecast New Facilities Investment, this need not (at the discretion of the Relevant Regulator) imply that such New Facilities Investment will meet the requirements of Section 8.16 when the Relevant Regulator considers revisions to an Access Arrangement submitted by a Service Provider. However, the Relevant Regulator may, at its discretion, agree (on written application by the Service Provider) at the time at which the New Facilities Investment takes place that it meets the requirements of section 8.16, the effect

of which is to bind the Relevant Regulator's decision when the Relevant Regulator considers revisions to an Access Arrangement submitted by the Service Provider. For the purposes of public consultation, any such application must be treated as if it were a proposed revision to the Access Arrangement submitted under section 2.28.

8.22 For the purposes of calculating the Capital Base at the commencement of the subsequent Access Arrangement Period, either the Reference Tariff Policy should describe or the Relevant Regulator shall determine when the Relevant Regulator considers revisions to an Access Arrangement submitted by a Service Provider, how the New Facilities Investment is to be determined for the purposes of section 8.9. 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 (with this decision to be designed to best meet the objectives in section 8.1).

8.23 Capital Contributions. New Facilities Investment may also be added to the Capital Base when a User makes a Capital Contribution (as defined below) in respect of a New Facility. Nothing in this Code prevents a User agreeing to pay the Service Provider a Charge which exceeds the Charge that would apply under a Reference Tariff for a Reference Service (or, in relation to another Service, under the Equivalent Tariff) in any circumstance including, without limitation, if the excess is paid in respect of the funding of a New Facility (in which case the extra payment is a Capital Contribution).

8.24 Any expenditure on a New Facility in respect of which a User makes a Capital Contribution constitutes New Facilities Investment incurred by the Service Provider for the purposes of this section 8. The User's obligations to the Service Provider and the Service Provider's obligations to the User with respect to the Capital Contribution shall be as agreed between the Service Provider and User.

8.25 Surcharges. As contemplated in section 8.19(a), unless precluded by the Service Provider's Extensions/Expansions Policy, a Service Provider may elect by written notice to the Relevant Regulator to recover all or part of an amount that it would not recover at the Prevailing Tariffs through a Surcharge (after commencement of the next Access Arrangement Period, this amount is that amount that would otherwise constitute Speculative Investment). A Surcharge is a Charge in addition to the Charge that would apply under a Reference Tariff for a Reference Service (or, in relation to another Service, under the Tariff that would be determined by the Arbitrator in arbitrating an access dispute under section 6) that is levied on Users of Incremental Capacity in order for the Service Provider to recover some or all of the cost of New Facilities Investment that can not be recovered at the Prevailing Tariffs (and so cannot be included in the Capital Base in subsequent Access Arrangement Periods). If the Relevant Regulator receives such a written notice, it may approve the Surcharge, with an approval having the effect of binding the Arbitrator in an access dispute under section 6. For the purposes of public consultation, the notice shall be treated as if it were a proposed revision to the Access Arrangement submitted under section 2.28.

7.4.2 Access Arrangement Proposal

CMS's forecast of Capital Expenditure over the term of the Access Arrangement is indicated in section 4.3 of the Access Arrangement Information and summarised as follows.

	Year				
	2000	**2001**	**2002**	**2003**	**2004**
Forecast Capital Expenditure ($million)	3.75	3.35	0.75	1.55	0.85

The forecast Capital Expenditure was indicated in the Access Arrangement Information to be for replacement of miscellaneous capital equipment, enhancements of peripheral assets, utility systems and equipment. A further breakdown of capital expenditure was provided to the Regulator on a confidential basis.

7.4.3 Submissions from Interested Parties

Submissions generally made no specific comment on forecasts of Capital Expenditure, but rather suggested that the forecasts be subject to scrutiny by OffGAR. One additional specific comment was made in the submission from the Office of Energy, as follows.

- Office of Energy

  If the capital expenditure is no scrutinised closely, not only from the perspective of the level of expenditure but also in terms of required timing, it is possible that expenditures are projected to occur early in the period, with the result of increasing the tariff. This is particularly relevant to expenditure that has some degree of discretion and is dependent on projected new contracts.

In assessing the forecasts of Capital Expenditure, the Regulator sought the advice of Connell Wagner Pty Ltd. This advice is summarised below under "Additional Considerations of the Regulator". The principal concern of the Regulator in regard to the timing of Capital Expenditure was the assumption by CMS of the high pipeline throughput over the entire Access Arrangement Period, with associated requirements for Capital Expenditure on compressor facilities, SCADA and communications. The projected pipeline throughputs are considered by the Regulator to be unreasonable given current throughputs, and consequently both the throughput assumptions and forecast Capital Expenditure should be reduced.

7.4.4 Additional Considerations of the Regulator

The Regulator made an assessment of the forecast Capital Expenditure on the basis of the confidential breakdown of expenditure provided by CMS. The regulator had three concerns with the forecast expenditure.

Firstly, forecast expenditure relating to compressor stations, some proportion of SCADA upgrades and electronic communications are linked to projected increases in pipeline throughput to 86 TJ/day over the entire period of the access arrangement, an increase of approximately 187 percent over current throughput. The Regulator considers this projected throughput to be unsubstantiated. Consequently, Capital Expenditure to accommodate CMS's projected throughput of 86 TJ/day within the Access Arrangement Period is considered to be inconsistent with the requirements of section 8.16(a) of the Code, that is, the amount of Capital Expenditure should 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. In the absence of any demonstration that the throughput projections of CMS are reasonable, the Regulator considers that a substantial part of projected Capital Expenditure comprises Speculative Investment within the meaning of section 8.19 of the Code, and thus should not be considered as a current cost for the purposes of determining Reference Tariffs.

Secondly, the forecast Capital Expenditure included expenditure on construction of new laterals without the necessary justification as required by the Code. The Regulator considers that CMS has not demonstrated that the projected capital expenditure satisfies the requirements of section 8.16(b) of the Code. That is, CMS has not demonstrated that at least one of the following conditions is satisfied for proposed laterals:

(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.

The Regulator will require CMS to provide further justification for throughput projections prior to approving the Access Arrangement. For the purposes of this Draft Decision, the Regulator has contemplated either a throughput of around 30 TJ/day, consistent with existing contracts, or a maximum throughput of 60 TJ/day, allowing for some market growth. Forecasts of Capital Expenditure were corrected for the reductions in throughput projections to these levels, and for some expenditure on laterals for Non-Reference Services that would be unlikely to meet the criteria of section 8.16(b) of the Code. These corrections result in the following Capital Expenditure projections for the period of the Access Arrangement.

	Year				
	2000	**2001**	**2002**	**2003**	**2004**
Forecast Capital Expenditure 30TJ/day throughput ($million)	0.25	0.25	0.25	0.25	0.25
Forecast Capital Expenditure 60TJ/day throughput ($million)	3.25	0.25	0.55	0.25	0.75

Thirdly, the forecasts of Capital Expenditure make no provision for improvements in productivity and efficiency over the Access Arrangement Period. The forecast Capital Expenditure includes a "base" amount of $250,000 per annum, relating mainly to miscellaneous capital equipment. This amount should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

7.4.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of forecasts of Capital Expenditure to be considered in determination of Reference Tariffs.

Required amendments to the Access Arrangement are as follows.

- Forecasts of Capital Expenditure should be revised in accordance with reasonable expectations of increased pipeline throughput over the Access Arrangement Period. Capital Expenditure required to accommodate pipeline throughput in excess of a reasonable expectation should be regarded as Speculative Investment within the meaning of section 8.19 of the Code and for the purposes of considering Capital Expenditure in the determination of Reference Tariffs.

- Expenditure on new lateral pipelines should be excluded from the forecasts of Capital Expenditure unless such expenditure is demonstrated to satisfy conditions set out in section 8.16(b) of the Code.

- Forecast Capital Expenditure includes a "base" amount of $250,000 per annum, relating mainly to miscellaneous capital equipment. This amount should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

7.5 OPERATING EXPENDITURE

7.5.1 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.

For the purposes of this Draft Decision, Non Capital Costs are referred to as Operating Expenditure.

7.5.2 Access Arrangement Proposal

Forecast Operating Expenditure over the term of the Access Arrangement is indicated in section 5 of the Access Arrangement Information. These costs are divided into categories of:

- field controllable expenditure, comprising the Operating Expenditure related to routine day to day operations;

- major expense job expenditure, comprising the Operating Expenditure related to non-routine, intermittent, and/or special one off activities; and

- marketing and overhead costs.

The projected Operating Expenditure is as follows.

	Year				
	2000	**2001**	**2002**	**2003**	**2004**
Field controllable expenditure ($million)	2.114	2.231	2.231	2.231	2.231
Major expense job expenditure ($million)	1.313	0.998	0.788	1.523	1.313
Marketing and overhead costs ($million)	0.429	0.429	0.429	0.429	0.429
Total Operating Expenditure ($million)	3.856	3.658	3.448	4.183	3.973

Cost items contributing to Operating Expenditure are listed in the Access Arrangement, however no itemised breakdown of costs was provided. A further breakdown of costs was provided to the Regulator by CMS on a confidential basis.

Operating Expenditure does not include costs of System Use Gas. It is proposed under section 15 of the General Terms and Conditions that these costs are passed on directly to Users as a charge in addition to transport tariffs. This matter is further discussed in section 8.6 of this Draft Decision.

7.5.3 Submissions from Interested Parties

No submissions were made on the matter of Operating Expenditure other than to suggest that the forecasts of Operating Expenditure be subject to scrutiny by O*ff*GAR.

7.5.4 Additional Considerations of the Regulator

The Regulator made an assessment of the forecast Operating Expenditure on the basis of the confidential breakdown of expenditure provided by CMS. The Regulator is satisfied that the forecast Operating Costs are reasonable with the exception of some costs (related to additional administrative and operational staff and equipment overhaul) that are linked to the high throughput projection of CMS for the Access Arrangement Period. CMS has assumed pipeline throughput of 86 TJ/day over the entire period of the access arrangement, an increase of approximately 187 percent over current throughput. The Regulator considers this projected throughput to be unsubstantiated.

The Regulator will require CMS to provide further justification for throughput projections prior to approving the Access Arrangement. However, for the purposes of this Draft Decision, the Regulator has contemplated either a throughput of around 30 TJ/day, consistent with existing contracts, or a maximum throughput of 60 TJ/day, allowing for some market growth. Correcting the forecasts of Operating Expenditure for the above matters gives the following Operating Expenditure projections for the period of the Access Arrangement.

	Year				
	2000	**2001**	**2002**	**2003**	**2004**
30 TJ/day Throughput					
Field controllable expenditure ($million)	1.365	1.365	1.365	1.365	1.365
Major expense job expenditure ($million)	1.292	0.767	0.504	1.292	1.292
Marketing and overhead costs ($million)	0	0	0	0	0
Total Operating Expenditure 30 TJ/day throughput ($million)	2.657	2.132	1.869	2.657	2.657
60 TJ/day Throughput					
Field controllable expenditure ($million)	1.995	1.995	1.995	1.995	1.995
Major expense job expenditure ($million)	1.313	0.788	0.525	1.313	1.313
Marketing and overhead costs ($million)	0.429	0.429	0.429	0.429	0.429
Total Operating Expenditure 60 TJ/day throughput ($million)	3.737	3.212	2.949	3.737	3.737

The Regulator notes that, as with Capital Expenditure, the forecast Operating Expenditure makes no provision for improvements in productivity and efficiency over the Access Arrangement Period. The forecast Operating Expenditure includes base amounts of field controllable expenditure and major expense job expenditure. These amounts should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

7.5.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of forecasts of Operating Expenditure to be considered in determination of Reference Tariffs.

Required amendments to the Access Arrangement are as follows.

- Forecasts of Operating Expenditure should be revised in accordance with reasonable expectations of increased pipeline throughput over the Access Arrangement Period.
- The forecast Operating Expenditure includes base amounts of field controllable expenditure and major expense job expenditure. These amounts should be reduced annually by a factor that allows for increases in productivity and efficiency, and provides incentives for such productivity gains consistent with a CPI-X incentive mechanism.

7.6 RATE OF RETURN

7.6.1 Access Code Requirements

Sections 8.30 and 8.31 of the code state 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 current Access Arrangement for the Parmelia Pipeline.

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 Relevant 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 7.1 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.

7.6.2 Access Arrangement Proposal

CMS utilised a net present value methodology for the determination of Total Revenue and Reference Tariffs and allowed for by section 8.4 of the Code and discussed in section 7.8 of this Draft Decision. The Rate of Return enters the tariff calculation as a discount rate, set equal to the Weighted Average Cost of Capital (WACC).

CMS's calculation of the WACC is described in section 7.4 of the Access Arrangement Information.

Capital Asset Pricing Model (CAPM) theory was used to derive a WACC value for the Parmelia Pipeline. The WACC value was derived as a probabilistic estimate using the Monte Carlo simulation technique with triangular probability distributions for input variables. Parameters of the probability distributions are indicated below. The probabilistic estimate of the WACC (pre–tax, real) has a most likely value of 16 percent, within a range of approximately 10 to 23 percent. CMS did not use this probabilistic estimate of the WACC in the stochastic calculation of Reference Tariffs, but used a triangular probability distribution with a most likely value of 16 percent, a minimum value of 13.5 percent and a maximum value of 18.6 percent.

WACC Calculation Input Variable	Parameters of Triangular Probability Distributions		
	Minimum	Typical	Maximum
Risk free rate (Nominal, %)	5.5	6.5	8.0
Inflation rate (%)	0	2.5	4.0
Implied Real Risk Free Rate (%) [21]	1.4	3.9	8.0
Debt premium above risk free rate (%)	0.75	1.2	1.5
Debt to equity ratio	40:60	50:50	60:40
Dividend imputation factor (gamma) (%)	0	0	60
Asset beta value	0.8	1.2	1.6
Market risk premium (%)	6.0	6.5	8.0

7.6.3 Submissions from Interested Parties

Risk Free Rate and Inflation

- Office of Energy (Nominal Risk Free Rate)

  CMS propose that a proxy risk free rate should be determined somewhere between a risk free rate of 8.0 percent (as proposed in the recent Victorian Access Arrangements) and the 10 year bond rate of 5.51 percent (quoted as at 3 May 1999). On this basis and with comparative stability in interest rates predicted in the medium term, a nominal risk free rate of 6.5 percent has been chosen as a typical value for the determination of the WACC.

  CMS has not effectively substantiated and established a principle for the risk free rate it proposes. It is considered acceptable practice to use the point estimate of the ten year Commonwealth bond rate (in accordance with the Capital Asset Pricing Model) or to use an average over a shorter period eg. 20 business days as used recently by IPART and supported by OOE for Western Power's 1998/99 electricity access price redetermination. Recent spot rates have averaged around 5.9% for the month of May and the latest spot rate at 8 June 1999 is 6.16%. This indicates that the CMS risk free rate may be a little high.

- Office of Energy (Inflation Forecast)

  The inflation rate assumed by CMS of 2.5% differs from the recent Commonwealth Treasury forecast contained in the budget of 2.25%. The maximum inflation assumption of 4% for the access period appears to be high. Nonetheless, there is a need for OffGAR to consider the potential impact of GST either as part of the determination or as an adjustment to inflation and the tariffs at the appropriate time.

The Regulator notes that where a real WACC is used, the *real* risk free rate is the more important input.

The Regulator's assessment of the real risk free rate proposed by CMS is summarised below under "Additional Considerations of the Regulator". On the basis of financial advice, the Regulator considers that a real risk free rate of 3.7% and a nominal risk free rate of 6.3% are reasonable, which imply an inflation forecast of 2.5%. These are close to CMS' typical

[21] The minimum value for the real risk free rate is obtained by taking the maximum value for the nominal risk free rate with the minimum value for the inflation forecast.

values of 3.9% for the real risk free rate, 6.5% for the nominal risk free rate, and inflation forecast of 2.5%.

This *real* risk free rate was derived from the 20 day average of 10 year capital-indexed Commonwealth Government securities up to 22 September 1999, and the nominal risk free rate was derived from the average of yields for 10 year nominal bonds over the same period (similar to the methodology suggested by the Office of Energy). The inflation forecast was then taken as the difference between these rates (using the Fisher transformation). This methodology for deriving the real and nominal risk free rates, and the inflation forecast, are consistent with the approach taken by the ACCC and IPART. The estimate of these rates derived by this methodology will fluctuate depending upon the time of estimation.

Cost of Debt

- Office of Energy

  The debt premium above the risk free rate utilised by CMS of 1.2 percent is the same as that used in the determination of the Victorian gas access arrangements by the ACCC and ORG. However, The Office of Energy notes that CMS has not substantiated this figure from the perspective of the type of business it currently undertakes in Western Australia, and in the context of its argument relating to its proposed typical debt gearing and associated risk. OffGAR needs to undertake a review of the debt premium being proposed.

The Regulator's assessment of the debt margin proposed by CMS is summarised below under "Additional Considerations of the Regulator". Financial advice obtained by the Regulator suggested that an appropriate cost of debt margin over the risk free rate could be as high as 2.0 to 2.5 percent, as opposed to the 1.2 percent proposed by CMS. The high values arose from consideration of the risk exposure of CMS in respect of the Parmelia Pipeline, in particular uncertainty over the life of gas resources in the Perth Basin. This high debt margin is, however, inconsistent with the margins used for other Access Arrangements that determined debt premiums of 1.0 to 1.2 percent. The Regulator considers that although there are arguably business risk factors particular to the Parmelia Pipeline, there are other factors that would act to mitigate commercial risk for the Parmelia Pipeline. On this basis, the Regulator considers that the lower bound of the range of values for the debt margin proposed by Macquarie (2.0 percent) is reasonable for the Parmelia Pipeline.

Asset Beta

- Office of Energy

  The Office of Energy considers that the typical asset beta of 1.2 assumed by CMS is too high. This value would mean a typical equity beta of 1.97%, implying a substantial commercial risk for the pipeline. As a comparison, this value is significantly higher than that used in the determination of the Victorian gas transmission and distribution access arrangements and in past Western Australian gas transmission and distribution access arrangements. OffGAR needs to review and assess this in greater detail and the factors being argued as impacting on its risk. The significant risk being implied by the assumed asset beta does not appear to be consistent with the following:

  – the growth being experienced in and increased market opportunities resulting from full deregulation of the gas market in Western Australia;

  – the likelihood of an interconnection with the AlintaGas distribution system and thus access to a greater market for gas transported through the Parmelia without the need for additional capital investment;

  – the current transport of gas through the Parmelia from the DBNGP (and thus Carnarvon Basin gas) despite the difference in gas quality specifications between the two pipelines, which alleviates what CMS asserts as a limited and risky upstream market that it faces;

– the longer term resolution of interconnection issues with the DBNGP particularly related to gas quality; and

– CMS' projection of the expected full utilisation of the pipeline over the access period.

All of the above point to a lower level of associated risk. This should be taken into consideration by O*ff*GAR.

The assumed asset beta and the resultant equity beta have the greatest impact on the calculated WACC given its significant deviation from what has been used in other recent determinations. The Office of Energy considers that the beta value should be brought down to a level that is more consistent with values that have been utilised for other regulatory determinations in Western Australia and Australia.

- Western Power

The Beta factor used in the tariff calculation is too high for a regulated transmission pipeline with little technical operational risk exposure. The UK utilities use a Beta of 0.9, the USA use around 0.5. CMS is using 1.2 in the central case. This is too high.

- Treasury

CMS arrives at an asset beta of 1.6 by working out the weighted average beta estimates of selected companies, as reported in the Centre for Research in Finance's Risk Measurement Service (December 1998). Treasury has identified two shortcomings in the use of this beta:

– The betas quoted from the Risk Measurement Service (December 1998) are equity betas and are therefore not directly comparable with asset betas. CMS' use of this average as an asset beta results in a higher WACC than would otherwise be derived. If an equity beta of 1.6 is used, as is comparable with those quoted by CMS which were derived from the Risk Measurement Service then the WACC would be reduced by 1.8 percentage points to 14.2 per cent.

– The companies that CMS uses as a yardstick to calculate its beta value are all exploration or gas extracting companies whose risk exposure would be considerably greater than that of the Parmelia Pipeline for two reasons. Firstly, where a number of companies are extracting gas from a gas field, the risk of supply to a company such as CMS which relies on the gas field as a whole will always be lower than the risk faced by any one of the companies in its exploration of gas reserves. Secondly, the Parmelia Pipeline transports gas from other sources including the Dampier Bunbury Natural Gas Pipeline which is interconnected near the beginning of the Parmelia Pipeline. Therefore even if the Dongara field did not in future provide sufficient gas for the Parmelia Pipeline, gas could be transmitted from other sources.

If an equity beta of 1.2 is used, as used by the Australian Competition and Consumer Commission (ACCC) in its Final Decision in the Access Arrangement for Transmission Pipelines Australia Pty Ltd, then the WACC would be reduced by about 3.8 percentage points to about 12.2 per cent. It is recommended that the Regulator should consider developing appropriate comparisons with industries which have similar risk exposure to the Parmelia Pipeline.

The Regulator's assessment of the asset beta proposed by CMS is summarised below under "Additional Considerations of the Regulator". The Regulator considers that the asset beta value used by CMS of 1.20 (which is re-levered into an equity beta of 1.58) is too high. Financial advice obtained by the Regulator variously indicated that the asset beta should be within ranges of about 0.50 to 0.70. On the basis of this advice, the Regulator considers an appropriate asset beta value for the Parmelia Pipeline to be 0.60, which has been re-levered to an equity beta of 1.0.

Market Risk Premium

- Office of Energy

The assumed typical market risk premium appear to be consistent with accepted industry values, though higher than the regulatory decisions for the Victorian gas transmission and distribution access

arrangements. OffGAR needs to be satisfied that there is indeed wide acceptance of 6.5% as argued by CMS.

The Regulator's assessment of the market risk premium proposed by CMS is summarised below under "Additional Considerations of the Regulator". Financial advice to the Regulator indicated an appropriate market risk premium to be in the range 6.0 to 7.0 percent, which is consistent with the value of 6.5 percent used by CMS. In view of some evidence for market risk premium having fallen in Australia and overseas, particularly in the United Kingdom where regulators use ranges of about 3–4 percent, and the standards that have emerged amongst other Australian regulators, the Regulator considers that the lower value of the range (6 percent) is reasonable for the Parmelia Pipeline.

Debt to Assets (Gearing) Ratio

- Office of Energy

  The standard debt to equity ratio for this industry is considered to be 60:40. This is reflected by the ACCC's determination for TPA and VENCorp. The Office of Energy notes that CMS's argument on the linkage between the debt premium it adopts and its assumed gearing ratio has not been substantiated and that this should be reviewed. The Office of Energy considers that the existing financial structure should not impact on the WACC and that the standard debt to equity ratio for this industry of 60:40 should be adopted.

- Treasury

  The WACC formulation is sensitive to the debt equity ratio assumptions used. Treasury notes that the CMS model assumes an expected debt to equity ratio of 50 per cent. This is lower than the 60 per cent debt equity ratio normally used in deriving WACC in other gas access regimes. The lower debt equity ratio increases the WACC estimate. It is suggested that a debt equity ratio of at least 60 per cent be assumed in line with other studies. This change would reduce the WACC by more than 0.5 percentage points.

The Regulator's assessment of the gearing ratio proposed by CMS is summarised below under "Additional Considerations of the Regulator". The Regulator considers that the requirements of the Code to consider standard financing structures for the industry should be the principal consideration in determining the WACC. On this basis, an assumed gearing level of 60 percent is considered reasonable for the Parmelia Pipeline.

Dividend Imputation (Gamma) Factor

- Office of Energy

  CMS has argued that a gamma value of zero is appropriate for the determination of the WACC as (i) the parent company of CMS is a foreign investor and it does not benefit from dividend imputation; and (ii) the effects of dividend imputation will be factored into the market risk premium in an efficient market. In determining whether or not dividend imputation should be included in calculation of the WACC value, OffGAR should note that section 8.31 of the Code requires that "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." Standard industry structure under Australian and Western Australian Conditions may be considered to involve companies making use of imputation credits and incorporating of dividend imputation in the determination of a WACC. Further, the inclusion of dividend imputation is the standard industry practice in the regulated electricity industry in Western Australia (regardless of government or private ownership), has been recommended for past gas distribution access arrangements in Western Australia, and is consistent with the ACCC's recent determination for the Victorian gas transmission access arrangements. The Office of Energy considers that an appropriate value for the gamma factor is 0.5, based on dividend imputation that has been applied in the cases noted above.

- Treasury

  It would appear that the taxation imputation parameter has been set at zero, notwithstanding the high value of 0.6 being reported in the table on page 51 of the Access Arrangement Information which outlines the assumptions used in the Monte Carlo simulation.

  CMS argue that the value of this parameter should be set at zero because of the foreign ownership of the pipeline. Treasury questions this position, as the appropriate treatment for accounting for taxation in such instances involves many other significant tax related matters not addressed in the argumentation. These could include the impact of foreign tax credit arrangements and the taxation and investment position of the overseas owner in the owner's home country.

  Furthermore, allowing variations in methodology applied in determining a Reference Tariff to recognise owner-specific matters of this type would bring about the possibility of arbitrage through sale to an Australian owner. These matters have been raised by the ACCC in other similar situations, where it takes the view that modelling should be consistent with an (average) Australian owner assumption and that the imputation parameter should therefore be set towards the high end. In its Final Decision in the Access Arrangement for Transmission Pipelines Australia Pty Ltd the ACCC set the imputation parameter at 0.5.

  If the imputation parameter was set at 0.5 this would reduce the WACC estimate by 2.4 percentage points compared with that based upon a zero value for the parameter.

The Regulator's assessment of the gamma value proposed by CMS is summarised below under "Additional Considerations of the Regulator". The principal consideration in respect of the gamma value was the requirement of section 8.31 of the Code that requires the rate of return to reflect standard industry structure, taken to constitute Australian ownership and availability of dividend imputation. In view of this, a gamma value of 0.5 is considered to be reasonable for the Parmelia Pipeline.

WACC Calculation

- Office of Energy

  In the light of the probabilistic calculation of WACC, the basis for the assumed minimum and maximum WACC for the purposes of calculation of Reference Tariffs is not made clear in the information document.

- Western Power

  The use of the Monte Carlo methodology is arguably incorrect. This is most commonly used where there is a reasonably wide range of plausible factors affecting the business and there are many such factors. Neither of these conditions apply to the gas pipeline industry. The costs are well known, the market condition is well understood and the technical side would be almost a certainty. Therefore Monte Carlo is not appropriate. This has in part led to the very high WACC of 16%.

- North West Shelf Gas

  The probabilistic methodology used in the determination of the Weighted Average Cost of Capital (WACC) is sensitive to the probabilities assigned to each of the minimum, typical and maximum values for each variable. These probabilities are not disclosed in the AAI and cannot therefore be examined to see if they are reasonable. In NWSG's view all the assumptions made in the calculation of the rate of return and the resulting tariff must be transparent.

The Regulator has no in-principle concern with the use of a stochastic rather than deterministic methodology for determination of a WACC value. However, whatever the methodology used to determine the WACC, the values of input variables, including the probability distributions pertaining to each input variable in a stochastic determination, must be adequately substantiated.

In undertaking a stochastic calculation of the WACC value, the probability distributions of input variables were assumed triangular. For such distributions, the probabilities of the nominated minimum and maximum values are zero, and probabilities of all intermediate values implicitly defined such that the area under each probability distribution is equal to one. CMS indicated the maximum, minimum and most-likely values of input variables in section 7.4.5.7 of the Access Arrangement Information, and thus defined the probability distributions of these input variables. However, the Regulator considers that inadequate justification was provided for selection of triangular probability distributions for these variables, and for the specification of minimum and maximum values of each variable. In the absence of such justification, the probability distributions appear to have been arbitrarily defined.

The use of a stochastic methodology for determination of the WACC would not in itself result in a higher WACC estimate. However, for two of the input variables to the WACC calculation – the risk free rate and the market risk premium – the triangular probability distributions were skewed towards higher values. This would contribute to a situation where the most-likely WACC value from the stochastic determination is greater than the WACC value calculated deterministically from the most-likely values of the input variables. This was indeed the case, as discussed below under "Additional Considerations of the Regulator".

Rate of Return

- Western Power

  The rate of return is too high. The Australian regulated rate of return for long life low risk energy infrastructure is around 7.5%. CMS claim unconvincingly that there are special factors that apply in WA that make use of the east coast regulated rate of return unrealistic.

- Treasury

  By contrast to CMS' proposed WACC of 16 per cent, the Office of the Regulator General (ORG) in Victoria has determined that an appropriate real pre-tax WACC is 7.75 per cent for some Victorian gas pipelines. In New South Wales there is currently debate about where it should be in the range 7.25 to 7.75 per cent. The generally accepted estimate of the pre-tax WACC is therefore around half that estimated by CMS.

  The CMS proposal does not explain why its WACC is so much higher than that in Victoria, but comments that there is no single correct way of calculating WACC, and that the different circumstances of Victoria make comparison meaningless. Given the substantial difference, clear identification of why the WACC for this pipeline is higher than that generally considered reasonable would appear necessary.

- North West Shelf Gas

  The proposed rate of return of 16.0 % is considerably higher than the 7.75% determined by the ACCC to be applicable to onshore transmission pipelines in Victoria. The high rate of return proposed for the Parmelia Pipeline is, in our analysis, the main reason for the inappropriately high tariff proposed.

In assessing the WACC determination of CMS, the Regulator obtained financial advice that variously indicated plausible ranges for the WACC value to be 7.6 to 8.3 percent and 7.6 to 9.5 percent. Through a review of reasonable values of input variables to the WACC calculation, the Regulator considers that a reasonable value for the WACC is 8.3 percent.

7.6.4 Additional Considerations of the Regulator

In assessing the derivation of the WACC by CMS, the Regulator obtained advice from Macquarie Bank Limited (Macquarie) and the Allen Consulting Group (ACG). This advice comprised:

- a review of the methodologies employed by CMS 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 Parmelia Pipeline based on values of input variables determined to be appropriate.

On the basis of the advice provided by Macquarie and 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

Use by CMS of CAPM theory to derive a WACC is consistent with guidelines provided in section 8.31 of the Code, and is considered to be consistent with the methodology used for determining a WACC for other pipeline Access Arrangements in Australia.

CAPM Framework for WACC Determination

The classical CAPM uses the following formula to estimate the after-tax cost of equity:

$$k_e = \left(r_f + \left(r_m \times \boldsymbol{b}\right)\right)$$

where

k_e = after-tax cost of equity
r_f = the nominal risk free rate
r_m = the Australian market risk premium (of equities over the risk free rate)
β = the systematic risk of equity.

Under the CAPM framework, the nominal post-tax WACC is derived by:

$$WACC = k_e \frac{\left(1 - t_c\right)}{1 - t_c\left(1 - \boldsymbol{g}\right)} \times \frac{E}{V} + k_d \left(1 - t_c\right) \frac{D}{V}$$

where

k_d = nominal pre–tax debt rate
t_c = corporate tax rate
D = market value of interest bearing debt
E = the market value of equity

V = the market value of the entity $V = D + E$
γ = franking credit utilisation.

Values for Input Variables

A comparison of values of input variables to the WACC calculation used by CMS with values considered reasonable by Macquarie and AGC is provided as follows. Discussion on values of particular variables is provided below.

WACC Calculation Input Variable	Values		
	CMS Typical Value	Macquarie Proposed Value	ACG Proposed Value
Real risk free rate (%)	3.9	3.8	3.6
Nominal risk free rate (%)	6.5	6.351	6.4
Inflation rate (%)	2.50	2.50	2.7
Cost of debt margin over the nominal risk free rate (%)	1.20	2.00 to 2.50	1.20
Gearing (debt to equity ratio) (%)	50	50	60
Corporate tax rate (%)	36	36	36
Dividend imputation factor (gamma)	0.00	0.4 to 0.5	0.50
Asset beta	1.20	0.56 – 0.7 [22]	0.60
Equity beta	1.58	0.80 to 1.00	1.20
Market risk premium (%)	6.50	6.0 to 7.0	6.0
Inflation rate (%)	2.50	2.50	2.6

Cost of Debt

The total cost of debt for a given entity or project is the prevailing risk free rate plus an appropriate margin reflecting the premium which would be payable by that entity or project to secure funding.

Risk free rate

The risk free rates (real and nominal) are best determined with reference to the yield on government bonds (indexed-linked bonds for real rates, and nominal bonds for nominal rates). The ACCC has proposed that the forecast inflation rate be determined either as the difference in the nominal bond rate and inflation-indexed bond rates, and deduced for the term corresponding to the duration of the regulatory period, or alternatively official inflation

[22] Macquarie stated a range for the equity beta and for the cost of debt. The implied range for the asset beta was calculated by O*ff*GAR using the de-levering methodology described in the text.

forecasts.[23] IPART consistently has used to yield on nominal bonds to estimate the nominal risk free rate, the yield on index linked bonds to estimate the real risk free rate, and has derived the inflation forecast as the difference between these rates (using the Fisher transformation).

CMS suggested that the risk free rate is represented by a government bond with term equal to the pipeline project life. This position is contrary to a position adopted by the ACCC in its *Draft Statement of Principles for the Regulation of Transmission Revenues* (27 May 1999) which proposed use of a 40 day moving average of the "on the day" five year government bond rate. Other regulators (IPART and ORG) have used the yield on 10-year bonds as the risk free rate (as has the ACCC in other decisions), and a 20-day average appears to have more precedent at this time (IPART has used 20 day averages consistently). CMS, whilst discussing the merits of various risk free rates proposed by other access arrangements, and acknowledging that the 10 year bond rate at the time of drafting the Access Arrangement (3 May 1999) was 5.51 percent, appears to have assumed a nominal risk free rate of 6.5 percent without substantiation.

Macquarie adopted an approach of averaging the 10 year rate on nominal Commonwealth Government bonds over the past 20 days and applied this averaging calculation to arrive at a nominal risk free rate of 6.351 percent. Macquarie advised as of the 22 September 1999, the benchmark 2010 index linked bond was trading at 3.74 percent real rate and the current 10 year government bond futures contract trading at 6.57 percent, indicating the market is currently pricing average inflation assumptions looking forward 10 years at 2.83 percent. This is consistent with the Reserve Bank of Australia's long term target for inflation of 2.0 to 3.0 percent. In view of these in indicators, Macquarie considered an inflation rate of 2.5 percent to be appropriate for the WACC calculation.

ACG used a 20 day average of the yield to maturity on 10-year nominal Commonwealth Government bonds (up to 3 September 1999) to arrive at its estimate of the nominal risk free rate of 6.37 percent. ACG used the 20 day average of 10 year indexed linked bonds over the same period to derive its estimate of the real risk free rate of 3.57 percent, which implied an inflation forecast of 2.70 percent.

Cost of debt margin

The cost of debt margin will vary with the credit rating and level of gearing of the company, and the willingness of lenders to supply funds to the project at the time the funds are raised. CMS chose 1.20 percent as the premium above risk free rate. This is consistent with

[23] ACCC, 1999, *Draft Statement of Principles for the Regulation of Transmission Revenues*.

regulatory decisions on Access Arrangements made by the ACCC[24], IPART[25] and the Victorian Office of the Regulator General[26] that accepted debt margins of 1.0 to 1.2 percent.

Macquarie considered that a higher premium over the risk free rate may be appropriate for the Parmelia Pipeline due to specific risk factors as identified by CMS in the Access Arrangement, including:

- the Dampier to Bunbury Natural Gas Pipeline is a direct competitor in the gas transmission market;
- the AlintaGas distribution network is a direct competitor in the Perth area gas delivery market;
- the Parmelia Pipeline holds a small fraction of market share in both the gas transmission and gas delivery markets; the Parmelia Pipeline is incapable of competing with the Dampier to Bunbury Natural Gas Pipeline because of its relatively small capacity; and
- the currently producing gas fields in the Perth Basin which supply the Parmelia Pipeline are in decline.

In view of these risks, Macquarie considered an appropriate cost of debt margin to be in the order of 2.0 to 2.5 percent. This margin was derived from the following assumptions:

- 25 bp for the typical margin between the 10 year Commonwealth Government bond rate and a "bank" rate against which credit margins would be levied;
- 150 to 200 bp for the credit margin on debt funding the Pipeline given the risks discussed above; and
- 25 bp margin for swap costs.

ACG used CMS' typical value for the debt margin. It also noted that, under the approach to 're-levering' proxy asset betas described elsewhere in this Draft Decision, changes in the assumed debt margin have a minimal impact on the estimated WACC for a given proxy asset beta.

The cost of debt margin estimated by Macquarie is inconsistent with the margins used for other Access Arrangements, as indicated above. The Regulator considers that although there are arguably business risk factors particular to the Parmelia Pipeline, there are other factors that would act to mitigate commercial risk for the Parmelia Pipeline. These include the

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[24] ACCC, 1998. Draft 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System.

[25] IPART, 1999, Draft Decision Albury Gas Company Limited.

[26] 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.

access of the Parmelia Pipeline to locations in the Perth metropolitan area not serviced by the Dampier to Bunbury Natural Gas Pipeline, and elements of a captive market for the Parmelia Pipeline in Perth Basin gas producers. On this basis, the Regulator considers that the lower bound of the range of values for the debt margin proposed by Macquarie (2.0 percent) is reasonable for the Parmelia Pipeline.

Capital Structure

CMS elected to utilise a debt to equity ratio of 50:50. This was based on the gearing of CMS's parent company (52 percent), adjusted downwards to reflect the riskier nature of the Parmelia Pipeline relative to other utilities in the group. This gearing level is contrary to recent reviews of gearing levels in recent decisions on regulated infrastructure in the Eastern States that proposed gearing levels of 60 percent as appropriate.[27] 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.

Due to the significant risks facing the Parmelia Pipeline (as indicated above), Macquarie considered that only a lower level of gearing would be sustainable by the cash flows generated by the Parmelia Pipeline. As such Macquarie considered a 50 percent gearing level to be appropriate in the calculation of the WACC.

The Regulator considers that the requirements of the Code to consider standard financing structures for the industry should be the principal consideration in determining the WACC. Consequently, despite the advice from Macquarie, an assumed gearing level of 60 percent is considered reasonable for the Parmelia Pipeline.

Taxation Rate

CMS used the statutory company tax rate of 36 percent in the WACC determination.

There has been some recent conjecture, most notably by the ACCC[28], 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 rate.

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[27] 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 Australia (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 Limited.

[28] 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 Australia (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 Limited.

In the absence of any definitive studies demonstrating the accuracy of using an effective rate of tax in the CAPM, Macquarie considered the statutory rate of 36 percent to be appropriate. The Regulator concurs with this assessment.

Dividend Imputation (Gamma) Factor

CMS used a gamma value of zero on the basis that its parent company is a non-resident for Australian tax purposes and as such does not benefit from the dividend imputation system. CMS further argued that the effects of dividend imputation are factored into the market risk premium.

Comments on the arguments put forward by CMS for a gamma value of zero are as follows.

- Section 8.31 of the Code requires the evaluation of the cost of capital to be in accordance with industry standards. On the basis that a foreign ownership structure is not necessarily reflective of standard industry structures, the Code suggests it should not be a consideration in determining an appropriate gamma value to be used. This treatment also acts to prevent the anomalous situation of Users paying higher prices because a piece of infrastructure is owned by a foreign entity.

- It is not accurate to adjust the gamma value to reflect the possibility of foreign ownership without modifying other parameters such as gearing, perceived beta values and the effective tax rate on the same basis, all of which may to some extent depend on the domicile of ownership. It is on this basis that the ACCC argued in its *Draft Statement of Principles for the Regulation of Transmission Revenues* that it should be assumed that the operator of any regulated business is Australian owned with the WACC-related parameters determined accordingly.

- The concept of imputation benefits being inherent in the market risk premium has been considered by the ACCC.[29] The ACCC acknowledged that market risk premiums are likely to have fallen following the introduction of dividend imputation and, for this reason, a "partially grossed-up" premium is appropriate in a WACC determination. Accordingly, provided the market risk premium is adjusted in the determination to reflect the benefit of imputation, the gamma value should not be zero. (Further discussion on the market risk premium is provided below.)

- There is an argument that the assumption for the gamma value should reflect the market-wide equilibrium value of franking credits and not be affected by the identity of the investor. The reasoning for this is as follows. If a foreign investor cannot use franking credits – and so has a high cost of capital – then it would place a low market value on any traded asset (eg. a share). If an Australian investor can use franking credits – and thus has a low cost of capital – then it would place a higher market value on that share. In a competitive capital market, the foreign investor should sell its shares to the Australian investor leading to a market equilibrium where the value of all shares – and the rate of

[29] ACCC, 1999, *Draft Statement of Principles for the Regulation of Transmission Revenues*; 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System.

return on the market value of those shares – reflects the market value of the franking credits. Hence using a gamma assumption that depends upon the identity of the investor is inconsistent with the likely outcome of competitive capital markets.

The ACCC assumed a gamma value of 0.5 in its final decision for the Victorian Gas Access Arrangements[30], as it reflected (i) a dividend payout ratio of less than 100 percent; (ii) the deferral of tax (through accelerated depreciation) causing the deferral of imputation credits; and (iii) other tax concessions not considered. Macquarie considered an appropriate gamma value for the Parmelia Pipeline to be in the range 0.4 to 0.5, and ACG considered an appropriate value to be 0.5. The Regulator considers a value of 0.5 to be reasonable for the Parmelia Pipeline.

Cost of Equity

The cost of equity is determined with reference to the risk free rate of return (as discussed above), the beta value of the firm's equity, and the market risk premium.

Asset beta

The beta value of the firms equity attempts to identify and measure the systematic risk of the stock of the firm. That is, the beta value is a measure of the co-variance of the returns on a particular stock to those of the market as a whole.

As equity beta's are affected by the level of financial risk borne by equity holders, (gearing) it is common practice for regulators to select a proxy asset beta for the regulated activity, and then to re-lever this for the assumed capital structure to derive an equity beta. Proxy asset beta's can be derived by observing the equity beta's for comparable firms that are traded on the stock exchange, and then de-levering the observed equity beta according to the capital structure of the entity. The conversion methodology that has been de-lever and re-lever equity and asset betas is as follows.[31]

$$\beta_a = \beta_e \cdot \frac{E}{V} + \beta_d \cdot \frac{D}{V}$$

$$\text{and } \beta_d = \frac{\text{Debt Margin}}{\text{Market Risk Premium}}$$

where

β_e = equity beta
β_a = asset beta

[30] 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System.

[31] This methodology for levering betas and deriving debt betas is described in Brealey, R.A. and Myers, S.C., 1996. *Principles of Corporate Finance* 5th ed., New York: McGraw Hill, and is also strongly advocated by Professor Robert Officer, a leading finance expert in Australia.

β_d = debt beta
D = market value of interest bearing debt
E = the market value of equity
V = the market value of the entity $V = D + E$.

An important implication of this levering methodology is that the estimated asset beta for an activity will depend upon the risk borne by both equity and debt providers (as reflected in the estimated equity and debt betas). Equally, once a proxy asset beta is derived for an activity, the relevant equity beta will depend upon the level of risk that is expected to be borne by the debt providers (as reflected in the assumed cost of debt).

Beta data for stocks listed on the Australian Stock Exchange are calculated by the Australian Graduate School of Management, University of NSW, and published under the name Risk Measurement Service. However, as the estimation of betas requires firms to be listed, a proxy beta must be used if the relevant activity is not separately listed. This is the case for CMS' Parmelia Pipeline.

Asset betas for comparable listed companies and regulated infrastructure are indicated as follows.

Entity	**Asset Beta**	**Equity Beta**
Companies		
CMS Energy Corporation (diversified gas and energy company, USA, parent company of CMS)	–	0.39
AGL Australia (diversified gas and energy company, Australia)	0.68	0.94
Envestra (gas network operators)	–	0.53
Duke Energy (diversified gas and energy company, USA)	–	0.41
Values Imputed for Regulated Infrastructure		
Victorian Gas Transmission[32]	0.55	1.2
Great Southern Energy	0.4 – 0.5	0.9 – 1.1
Albury Gas Company[33]	0.4 - 0.5	0.9 to 1.1
AGL Central West Pipeline	0.6	1.48
NSW and ACT Transmission Network[34]	0.4	0.93

[32] 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System.

[33] IPART, 1999, Draft Decision Albury Gas Company Limited.

[34] ACCC, 1999, Draft Decision on the Access Arrangement for the Moomba to Sydney Gas Pipeline.

CMS proposed an asset beta value for the Parmelia Pipeline of 1.20, corresponding to an equity beta of 1.58. This number appears to have been selected by CMS as the mid-point between CMS's view of the asset beta of the Australian Gas Light Company (AGL) of 0.8 and the average values of a number of oil and gas exploration and production companies (1.60). CMS's rationale for using the latter as the upper range of its own beta is that the Parmelia Pipeline is dependent on the continued success of the upstream inputs.

AGL was chosen by CMS as a comparable entity as it is the only company currently listed on the Australian Stock Exchange with a primary business activity of gas transmission via pipeline (the Goldfields Gas Pipeline, in which CMS is also an investor). CMS argues for a higher beta than AGL's 0.8 on the basis that AGL is also involved in gas and electricity distribution and retail businesses, and this diversified portfolio has reduced the company's risk profile. However, advice from Macquarie was that the beta calculated by the Risk Measurement Service for AGL would not reflect any effects from diversification given that betas reflect only the risk that cannot be diversified. Moreover, as reflected in the above table, the beta of 0.8 for AGL reflects its equity beta, not its asset beta (similar for the quoted betas for oil producers). *Off*GAR's estimate of AGL's asset beta is about 0.64.[35] It is noted that this beta is likely to overstate the beta for AGL's gas transportation activities given that AGL derives substantial revenue from gas and electricity retailing, as well as other non-transport activities.[36].

The ACCC, in its final decision for the Victorian Gas Network[37], concluded that an appropriate asset beta for that transmission infrastructure would be 0.55. However, in determining this beta, the ACCC contemplated the relative riskiness of the regulatory regime in which the network operates and its effect on the beta, and cited this as the reason for increasing the asset beta from 0.45 nominated in its Draft Decision. This approach, which took account of non-systematic risk factors, appears inconsistent with the Draft Statement of Principles subsequently released by the ACCC, which suggests that "consistency with the WACC/CAPM framework requires that specific risks be factored into projected cash flows and not the cost of capital".

Macquarie considered that an appropriate equity beta for CMS would be in the range 0.8 to 1.0, and that the range for the cost of debt is 2per cent to 2.5 per cent, implying a range for the asset beta of between about 0.55 and 0.7.[38] ACG used an asset beta of 0.6 based on Macquarie's analysis, and the upper-end of the range of asset betas that have been adopted by

[35] This is based on an assumed debt margin of 1.2% (debt beta of 0.20), and an assumed debt/assets ratio of 26%.

[36] This observation was made by Professor Parry, Chairman of IPART, in a discussion of estimates of AGL's asset beta at the ACCC/ORG WACC forum on 3July 1998 (page 59 of the transcript of proceedings, which is available on the web-sites of the ORG and ACCC).

[37] 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System.

[38] The implied range for the asset beta has been calculated by *Off*GAR from Macquarie's inputs using the levering equation described above.

regulators in Australia to date. The average asset beta for the Australian companies listed above is about 0.50.

The Regulator considers that an asset beta of 0.6 for the Parmelia Pipeline is reasonable. This is higher than the asset betas adopted for the Victorian gas businesses but is consistent with the ACCC's recent Draft Decision on the AGL Central West Pipeline.

Market risk premium

The market risk premium reflects the excess of return achieved by the market as a whole over the risk free return. CMS proposed a market risk premium of 6.5 percent on the basis that this value has wide acceptance in the Australian finance industry.

Whilst some recent studies indicate that lower values may be more appropriate, citing arguments such as the stable inflationary period now prevailing and the effect of the imputation system in lowering market risk premiums, other commentators believe the observed market risk premium of the past decade is still the most accurate long term forecast[39]. On this basis, Macquarie took the view that the market risk premium should be in the range 6.0 to 7.0.

ACG advised that there is evidence that the market risk premium has fallen in Australia and overseas, particularly in the United Kingdom where regulators use ranges of about 3–4 percent, and that the weight of regulatory precedent in Australia supports a value that does not exceed 6 percent. IPART and the ACCC have used 5.5 percent in their most recent decisions. On this basis, the Regulator considers that the lower value of the range recommended by Macquarie (six percent) is reasonable for the Parmelia Pipeline.

WACC Determination

Macquarie calculated the nominal cost of equity, the nominal post–tax WACC, and the real pre–tax WACC using deterministic calculations based on the CMS's typical values of variables, and values of variables regarded by Macquarie as reasonable for the circumstances of CMS and the Parmelia Pipeline operations. The real pre–tax WACC was calculated by two methods – the market practice transformation method (tax first, inflation second) and the corrected reverse transformation method (inflation first, tax second). Macquarie advised that neither of the transformation methodologies when used in isolation will produce an accurate result under any model incorporating debt, equity and taxation. However, the methodologies specify a suitable range within which the real pre-tax WACC could fall.

The results of the Macquarie determination of WACC values are as follows.

[39] Hathaway, N., 1999. *Market Risk Premia*.

WACC Parameter	CMS Stochastic Calculation	Deterministic Calculation from CMS Typical Values of Input Variables	Deterministic Calculation from Macquarie Values of Input Variables	
			Low*	High*
Nominal cost of equity (%)	–	16.79	10.72	11.82
Nominal post tax WACC (%)	–	10.90	6.8	7.60
Real pre–tax WACC by market practice transformation (%)	–	14.1	8.3	10.20
Real pre–tax WACC by reverse transformation (%)	–	12.7	6.9	8.80
Real pre-tax WACC midpoint (%)	16	13.43	7.6	9.5

* The low values were calculated using the low value of the equity beta, the low value of the cost of debt, the low market risk premium and the high value of the dividend imputation gamma, as estimated by Macquarie. The high values were calculated using the high value of the equity beta, the high value of the cost of debt, the high market risk premium and the low value of the dividend imputation gamma.

Macquarie arrived at a final consideration on a real pre-tax WACC value for the Parmelia Pipeline of 7.6% to 9.5%. The boundaries of this range are derived from the adoption of both market practice and reverse transformation methodologies. Macquarie considered this to be the most appropriate approach to adopt in the circumstances, but reiterated the view that neither methodology, either in isolation or combined, will produce an accurate pre-tax WACC. Depending on the effective tax rate of CMS, which incorporates accelerated depreciation rates and inflationary expectations, the real pre-tax WACC may fall at any point within this range, and may in very limited circumstances fall outside the range.

ACG advised that both of the transformations used to derive a pre–tax WACC are estimates and involve imprecise assumptions about the cost of tax. ACG argued that in the circumstances of the Parmelia Pipeline, the market practice transformation may be more appropriate. The reason that ACG has given is that the Parmelia Pipeline is over 20 years old and taxation depreciation allowances associated with the regulated assets have probably been largely exhausted. Accordingly, the Service Provider would be expected to have a high effective tax rate. Using the market practice transformation, and the values of input variables considered reasonable by ACG, ACG estimated a reasonable real pre–tax WACC to be in a range with a midpoint of around 8.3 percent.

On the basis of advice from Macquarie and ACG, the Regulator considers that the following values of input variables to the WACC calculation are reasonable for the Parmelia Pipeline.

WACC Calculation Input Variable	Value
Real risk free rate (%)	3.7
Nominal risk free rate (%)	6.3
Inflation forecast (%)	2.5
Cost of debt margin over the nominal risk free rate (%)	2.0
Gearing (debt to equity ratio) (%)	60
Corporate tax rate (%)	36
Dividend imputation factor (gamma)	50
Asset beta	0.6
Equity beta	1.0
Market risk premium (%)	6.0

Using a market practice transformation, the WACC calculated from these values of input variables is 8.3 percent (pre–tax, real). This equates to a nominal post-tax cost of equity of 12.3 percent. The Regulator considers these values to be for the Parmelia Pipeline.

7.6.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of establishing the Rate of Return.

Required amendments to the Access Arrangement are as follows.

- The WACC estimate used to specify a Rate of Return should be amended to more accurately reflect current financial-market parameters. Any variation from the Regulator's assessment of an appropriate WACC of 8.3 percent (pre–tax, real) would need to be justified to the satisfaction of the Regulator.

7.7 DEPRECIATION SCHEDULE

7.7.1 Access Code Requirements

Sections 8.32 to 8.34 of the Code specify rules for depreciation of assets that from 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).

7.7.2 Access Arrangement Proposal

The methodology for depreciation of the Capital Base is described in section 7.5.4.7 of the Access Arrangement Information. This methodology involves annual calculation of the value of the Capital Base by depreciating the Initial Capital Base by the straight line method and adding the value of Capital Expenditure over the same period. The Capital Base is also adjusted annually for inflation by a consumer price index (CPI) escalator calculated from the Consumer Price Index (All Groups for Perth, Western Australia) as published for each quarter by the Australian Bureau of Statistics.

For the purposes of depreciation, CMS assumed a single triangular probability distribution for the economic life for all assets making up the pipeline. This did not reflect a weighted average asset life across asset classes, but rather was an "approximate" value selected by CMS.

As the Initial Capital Base and asset life were both specified by CMS as probabilistic estimates, the residual Capital Base at the end of the Access Arrangement Period was also determined as a probabilistic estimate.

7.7.3 Submissions from Interested Parties

No submissions were made on the matter of asset depreciation.

7.7.4 Additional Considerations of the Regulator

In assessing the proposed methodology for depreciation of the Capital Base, the Regulator considered two matters:

- the proposal to depreciate assets by the straight line method; and
- the proposal to depreciate assets based on an assumption of a single value for the remaining life of all assets making up the pipeline.

Straight Line Depreciation

The proposal of CMS to depreciate the Capital Base by the straight line method is consistent with depreciation methodologies proposed for other Access Arrangements in Australia.[40] However, for the Parmelia Pipeline the methodology is potentially inconsistent with section 8.33(a) of the Code that requires a depreciation schedule to be designed 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. CMS's proposed value of the Initial Capital Base was based on expectations of substantial growth in the market for gas

[40] 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 Australia (Assets) Pty Ltd for the Western Transmission System, and by Victorian Energy Networks Corporation for the Principal Transmission System. Office of the Regulator General, Victoria, October 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.

transportation in the Parmelia Pipeline. These expectations led to CMS proposing a value for the Initial Capital Base that was derived from an ORC value that assumed a pipeline capacity substantially in excess of current throughput. Furthermore, information available to the Regulator suggests that the implicit purchase price of the regulated assets included a substantial speculative component based expectations of future increases in the quantity of gas transported.

As indicated in section 7.3 of this Draft Decision, the Regulator is prepared to accept a valuation of the Initial Capital Base that recognises some asset value associated with expectations of market growth. However, if the value ultimately assigned to the Initial Capital Base includes a component attributable to expectations of future growth in the market for gas transportation, then consistency with the principles of section 8.33 of the Code would require that the depreciation schedule provide for this component of the Capital Base to be depreciated only at some future time when the expectations of market growth are realised. For this reason, the Regulator considers that depreciation of that part of the value of the Initial Capital Base that is in excess of the value attributable to existing contracts should be depreciated only as the expectations of market growth are realised.

Economic Lives of Assets

CMS propose to depreciate the Capital Base under the assumption of a single value for the economic life and remaining life for all assets making up the pipeline. This is inconsistent with the requirement of section 8.33(b) of the Code that requires each asset or group of assets that form part of the pipeline to be depreciated over the economic life of that asset or group of assets. The Regulator considered depreciation of groups of assets with different economic-lives in assessing DORC values for the pipeline in section 7.3 of this Draft Decision. A depreciation schedule taking into account different economic lives was found to alter DORC values by approximately 10 percent over the values obtained using the uniform asset life of 60 years proposed by CMS.

In considering valuation of the Initial Capital Base (section 7.3 of this Draft Decision), the Regulator concluded that valuation should be based upon reasonable expectations of CMS of the economic value of the pipeline assets at the time the assets were purchased, rather than a cost figure such as a DORC value. With an economic-value methodology for valuing the Initial Capital Base, the value is not associated with particular assets but rather with the value of contracts for gas transportation. Consequently, the Regulator considers that an Initial Capital Base valued in this way should be depreciated over the remaining life of the principal pipeline assets rather than the economic lives of individual assets or groups of assets. Notwithstanding this, however, new capital expenditure should be depreciated according to the economic lives of the new assets.

7.7.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of the Depreciation Schedule.

Required amendments to the Access Arrangement are as follows.

- The Depreciation Schedule should be altered such that the part of the value of the Initial Capital Base that is in excess of the value attributable to existing contracts is depreciated only as the expectations of market growth are realised.

- The methodology for depreciation of new Capital Expenditure should be altered to give greater recognition to different economic lives for the various assets or groups of assets.

7.8 TOTAL REVENUE, COST/REVENUE ALLOCATION AND REFERENCE TARIFFS

7.8.1 Access Code Requirements

The Code addresses the determination of Reference Tariffs in terms of two principal steps:

- determination of an amount of Total Revenue required to cover all costs associated with providing gas transportation services, including depreciation and a return on capital;

- allocation of the Total Revenue across services, including both Reference and Non Reference Services, and determination of the Reference Tariffs that will return the share of Total Revenue allocated to Reference Services.

CMS did not document each of these steps separately. Instead, the steps were subsumed in a stochastic model used to determine Reference Tariffs. In view of this approach, the steps are considered jointly in this section of the Draft Decision.

The requirements of the Code in respect of each step in the determination of Reference Tariffs are described below.

Total Revenue

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.

Cost/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 from revenues from Reference Services and other services. Rules for the allocation of costs/revenues between services are provided in sections 8.38 to 8.43 of the Code.

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 or 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 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 Costs/Revenue between reference Services and Rebatable Services, 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 the following 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.

Section 8.42 relates to the allocation of costs/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.

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 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).

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 a manner that the Regulator is satisfied is fair and reasonable.

7.8.2 Access Arrangement Proposal

CMS utilised a net present value methodology for the determination of Total Revenue (Access Arrangement Information, section 7.2). The determination of Total Revenue was not described or stated in the Access Arrangement or Access Arrangement Information, but rather was subsumed into the calculation of Reference Tariffs that return a net present value equal to zero.

The allocation of costs/revenue across Services and Users was not explicitly described by CMS in documentation relating to the determination of Reference Tariffs. Nevertheless, an allocation of costs/revenue across services is implicit in the tariff determination. In assessing CMS's tariff determination, the Regulator interpreted the general procedure for allocating Total revenue and determining Reference Tariffs to be as follows.

- An estimate was made of total pipeline capacity and a division of this capacity into capacity available for the provision of firm services (firm capacity) and capacity available for the provision of interruptible services (interruptible capacity). CMS used a probabilistic estimate of total pipeline capacity as a triangular probability distribution with a minimum value of 80 TJ/day, a typical value of 86 TJ/day and a maximum capacity of 91 TJ/day. This was assumed to be divided into firm and interruptible capacity in proportions of 74 percent and 26 percent respectively.

- An assumption was made that all services provided under existing capacity utilise firm capacity with a load factor of 100 percent. The projected annual throughputs for services under existing contracts over the Access Arrangement Period were subtracted from the firm capacity of the pipeline to derive a residual firm capacity able to be utilised for additional services. Projected annual throughputs for existing contracts are indicated in section 6.2.2 of the Access Arrangement Information as 29.0 TJ/day in 1999, 29.6 TJ/day in 2000, and 30.2 TJ/day in 2001 to 2003.

- An assumption was made that all residual firm capacity and interruptible capacity would be utilised for the provision of the Firm Extended Service and the Interruptible Extended Service, respectively, with a load factor of 90 percent.

- As the load factor for the Firm Extended Service and Interruptible Extended Service is less than 100 percent, there is residual capacity available for provision of Spot Services. An assumption was made of Reference Spot Services being provided with a probabilistic estimate of throughput as a triangular distribution with a minimum value of 0 TJ/day, a typical value of 5 TJ/day and a maximum value of 15 TJ/day.

- The Total Revenue for the pipeline was specified as being returned through:

  – revenue from services provided under existing contracts, as specified in section 7.5.4.5 of the Access Arrangement Information;

  – revenue from Spot Reference Services determined as the throughput of Spot Services multiplied by a tariff specified as an exogenous random variable with a triangular

probability distribution with minimum value \$0.15/GJ, typical value of \$0.25/GJ and maximum value of \$0.50/GJ;

– revenue from a reservation component of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, levied against all residual firm capacity and all interruptible capacity of the pipeline; and

– revenue from a commodity component of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, levied against throughput for these services assuming the 90 percent load factor.

- The relativities of Reference Tariffs for Firm Extended Service and Interruptible Extended Service, and the reservation and commodity components of these tariffs, were specified as –

	Reservation Charge	**Commodity Charge**	**Total Tariff**
Firm Extended Service	$(0.8)x$	$(0.2)x$	x
Interruptible Extended Service	$(0.8)(0.9)x$	$(0.2)(0.9)x$	$(0.9)x$

- A "goal seeking" algorithm was used to determine a value for the Reference Tariff for the Firm Extended Service (x in the table above), and hence for other Reference Tariffs for extended Reference Services, that for a given set of input variable values determines a Total Revenue that returns a net present value of the Pipeline over the Access Arrangement Period of zero with a discount rate equal to the WACC. This was undertaken as a Monte Carlo simulation with the probabilistic estimates of input variables specified in section 7.5.4.10 of the Access Arrangement Information and summarised as follows.

Input Variable	**Parameters of Triangular Probability Distributions**		
	Minimum Value	**Typical Value**	**Maximum Value**
Total pipeline capacity (TJ/day)	80	86	91
Total firm pipeline capacity (TJ/day)	60	64	68
Spot services throughput (TJ/day)	0	5	15
Spot services tariff (\$/GJ)	0.15	0.25	0.50
Capital expenditure (percent of projected)	75	100	125
Operating expenditure (percent of projected)	75	100	125
Pipeline optimised replacement cost (\$m)	170	210	253
Life of all assets (years)	42	60	80
Weighted average cost of capital (percent)	13.5	16.0	18.6
Inflation rate (percent)	0	2.5	4

- The Monte Carlo simulation methodology returned a probabilistic estimate of the Reference Tariff for the Firm Extended Service (and hence the Reference Tariff for the Interruptible Extended Service and the reservation and commodity components of these tariffs) that will return a net present value of the pipeline equal to zero. The probabilistic estimate of the Reference Tariff for the Firm Extended Service was characterised by a mean of $0.83/GJ with a range of approximately $0.50/GJ to $1.30/GJ. CMS selected the mean value as the Reference Tariff for the Firm Extended Service, and hence set the Reference Tariffs and commodity and reservation components of these tariffs as follows.

	Reservation Charge	Commodity Charge	Total Tariff
Firm Extended Service	$0.664/GJ	$0.166/GJ	$0.83/GJ
Interruptible Extended Service	$0.5976/GJ	$0.1494/GJ	$0.747/GJ

CMS propose that the Reference Tariffs be inflated quarterly by a CPI Escalator calculated from the formula:

$$CPI_N = \frac{\left(CPI_{N-2} - CPI_0\right)}{CPI_0}$$

where: CPI_N is the CPI for the quarter commencing six months prior to the commencement of quarter N;

CPI_0 is the number 119.8, being the CPI for the quarter commencing on 1 January 1999; and

quarter N is the quarter for which the CPI escalator is being applied.

The CPI proposed to be used by CMS in calculation of the CPI escalator is the all groups CPI for Perth, Western Australia as published for each quarter by the Australian Bureau of Statistics.

7.8.3 Submissions from Interested Parties

Submissions from interested parties relating to the calculation of Reference Tariffs are summarised below under the following subheadings.

- Total Revenue
- Cost/Revenue Allocation
- Tariff Calculation
- Spot Services and Tariffs

- Proposed Reference Tariffs
- Tariff Inflation

Total Revenue

No submissions were received that addressed the choice of a NPV methodology for the determination of Total Revenue. A submission from the Office of Energy did, however, make comment on the calculation of NPV implicit in the tariff calculation, summarised as follows.

- Office of Energy

  It is necessary for OffGAR to verify the NPV financial modelling and the application of the Monte Carlo simulation to ensure that it has been applied correctly. OffGAR needs to review and ascertain the integrity of the Monte Carlo simulation modelling and clarify and assess the reasonableness of the assumptions.

The Regulator was not provided full documentation for the calculations undertaken by CMS to determine total revenue and tariffs. Using information provided in the Access Arrangement Information and with verbal advice from CMS, the Regulator undertook deterministic and stochastic calculations of Reference Tariffs using the same values of input variables and general methodology as CMS. On the basis of the results of these calculations, the Regulator is satisfied that the tariff calculations of CMS are closely reproducible. Notwithstanding this, however, the Regulator had several concerns as to the methodology for determination of Reference Tariffs and the values of input variables. These concerns are discussed further in the remainder of this section of the Draft Decision.

Cost/Revenue Allocation

- Office of Energy

  CMS argues that the Parmelia Pipeline offers gas transport services on a non-discriminatory basis. The philosophy of non-discrimination is paying the same tariff for the same type of service, where this tariff reflects costs incurred in providing a particular service consistent with the requirements of section 8.38 of the Code. The allocation by CMS of costs to all types of contract, particularly in respect of existing contracts and Reference Services, should be examined by OffGAR to determine whether the cost allocation and tariffs are fair and reasonable and consistent with section 8.38 of the Code.

  It appears from the description of the tariff determination that the revenue obtained from existing contracts has been utilised in the NPV calculation to determine the revenue (and thus the tariffs) to be recovered from the reference services, rather than using the existing contracted quantities and determining an average tariff. Given that the average transport charge to existing contracts is about $0.64/GJ (calculated from throughput and revenue presented in the access information) compared to the calculated tariff for reference services of $0.83/GJ, it would appear that reference services have borne a larger proportion of the costs in the NPV calculation. Though it is recognised that additional capital costs could be imposed by expanding its business, whether the calculated tariffs reflect costs imposed by the reference services would need to be ascertained.

  If indeed the tariff determination was undertaken on the understanding above and on the basis of OffGAR's review of the cost allocation, OffGAR would have to ascertain whether discounts have effectively been given to existing contracts and consider whether these are prudent discounts for purposes of the Code and are to be passed on to other Users.

- Mobil

  The methodology adopted by CMS for arriving at a tariff makes no mention of existing tariffs other than they are confidential (Access Arrangement Information p. 35). One would find it hard to believe that the

tariffs for existing customers resemble those proposed. Does this imply a favourable tariff for pre-existing customers but a punitive tariff for those who contract post 1999? This leads to an inequitable situation.

The tariff calculation undertaken by CMS implicitly allocated costs/revenue between services provided under existing contracts and Reference Services that are assumed to comprise all additional services provided through the Parmelia Pipeline. The principal decisions in the allocation of costs/revenue were:

- the allocation of costs/revenue to services provided under existing contracts according to the projected revenue that will be returned from these services under the terms of the contract;
- the allocation of costs/revenue to spot services according to projected revenue from these services with estimated throughputs and tariffs;
- all additional costs/revenue is allocated to reference services; and
- a slightly higher proportion of costs/revenue is allocated to Firm Extended Services than to Interruptible Extended Services, implicit in the 10 percent lower tariff for the Interruptible Extended Service.

The allocation of costs/revenue proposed by CMS is inconsistent with principles set out in sections 8.38 and 8.43 of the Code. Section 8.38 of the Code requires that costs/revenue be allocated to services according to the costs directly attributable to the provision of the service and a reasonable share of the joint costs of providing all services. In the absence of any evidence that unit costs differ between services provided by CMS, costs/revenue should be allocated across all services according to proportions of throughput or capacity used for the provision of each type of service. For the purposes of determining Reference Tariffs, this allocation of costs/revenue is equivalent to an assumption that all Users, including Users under existing contracts, are paying the Reference Tariffs.

In the determination of Reference Tariffs, CMS must address the allocation of costs/revenue between Reference Services and services provided under existing contracts.

Under the principles for cost allocation set out in section 8.38 of the Code, the allocation of costs/revenue to services provided under existing contracts should be independent of the revenues returned from these services under the terms of the contracts. This implies that if the tariffs established in the existing contracts are not sufficient to meet the costs directly attributable to provision of the relevant services and a reasonable share of the joint costs of all services, then the Service Provider must carry the loss from providing the services. The shortfall in revenue cannot be recouped from higher tariffs for Reference Services. Conversely, if the tariffs established in the existing contracts are more than sufficient to meet the costs directly attributable to provision of the relevant services and a reasonable share of the joint costs of all services, then the Service Provider may retain the surplus revenue. The setting of Reference Tariffs need not recognise the generation of this surplus.

Section 8.43 of the Code provides for a Service Provider to offer discounts for particular services in certain circumstances, that is, to set a Tariff for a service that is less than adequate to cover the costs directly attributable to the provision of the service and a reasonable share of the joint costs of providing all services. The principles of section 8.43 have potential application to the proposal by CMS to establish a lower tariff for the Interruptible Extended Service than for the Firm Extended Service. The proposed 10 percent lower tariff for the

Interruptible Extended Service has not been justified by CMS and appears arbitrary. In accordance with provisions of sections 8.38 and 8.43 the Code, the lower tariff must be justified by either lower costs attributable to the Interruptible Extended Service than for the Firm Extended Service, or for the lower tariff to constitute a prudent discount within the meaning of section 8.43 of the Code. Notwithstanding this, the Regulator considers that the allocation of costs/revenue across existing Firm and Interruptible Services is something of a mute issue while the Parmelia Pipeline is being utilised at substantially below capacity, as is likely for the Access Arrangement Period. In this situation it is likely that all services would be provided as firm services.

Tariff Calculation

- CMS

  CMS engaged a consultant, Professor Lou Caccetta, Head of School of Mathematics and Statistics at Curtin University, to provide independent expert evaluation of the applicability of Monte Carlo simulation to the determination of Reference Tariffs. In summary, the conclusions of the evaluation were that:

  – stochastic methods, and the Monte Carlo method in particular, are applicable to the determination of Reference Tariffs;

  – deterministic methods are applicable when the values of input variables are known with a high degree of certainty and when the values of input variables do not change over time;

  – the use of Triangular input distributions to characterise the ranges assigned to input variables is commonly used and well accepted, but the use of Beta distributions would constitute an improvement;

  – Latin Hypercube sampling (as used in the Monte Carlo method employed) is appropriate;

  – the number of iterations (10,000) used in the Monte Carlo method employed is appropriate;

  – the Monte Carlo method used does not address dependencies between input variables, and consideration of these would constitute an improvement.

As indicated above in relation to discussions of the Initial Capital Base and the Rate of Return, the Regulator has no in-principle difficulty with the use of a stochastic methodology such as the Monte Carlo technique. However, this stochastic methodology is considered to have little advantage over a deterministic methodology in cases such as with the CMS determination of Reference Tariffs. Furthermore, regardless of the methodology used to calculate the DORC, the values of input variables to the calculation, including the probability distributions for variables in a stochastic calculation, need to be adequately substantiated. A greater degree of substantiation is required in specification of a probability distribution for a variable in a stochastic methodology, as opposed to a single most-likely value in a deterministic methodology. The Regulator considers that probability distributions of variables were not adequately substantiated in the tariff calculation by CMS.

Spot Services and Tariffs

- Office of Energy

  The basis of the assumed spot capacity tariffs has not been specified and how spot capacity is treated in the simulation, i.e. the interplay between available capacity, existing contracts, extended reference services and spot reference services needs to be reviewed and understood.

- Western Power

  The spot transport tariff has been proposed to be set by competitive bidding process. But the spot price is subject to a floor price set daily by CMS. This floor price is the minimum any User may pay for Spot Services and can be set artificially high by CMS.

  Rational economics should result in spot tariffs being set at marginal rates. This is not happening in the Western Australian gas transportation market. CMS appear to be seeking to maintain this monopolistic approach.

The Regulator considers that it is both economically efficient and in the best interests of Users and gas consumers for CMS to offer Spot Services utilising reserved but unused pipeline capacity that becomes available on a day-to-day basis. The provision of Spot Services potentially increases the quantity of gas transportation capacity available to Users, at a lower cost and with greater contractual flexibility than for extended services. The Regulator also considers it reasonable that the tariffs for spot services be determined by a bid system and, subject to Spot Services comprising a relatively small proportion of total pipeline throughput, the revenues from these services not necessarily contributing to the fixed costs of Pipeline Operation.

Notwithstanding the above, the Regulator considers that CMS has not adequately substantiated either the forecasts of quantity of Spot Services provided or the tariffs established for these services. CMS's probabilistic estimate of the quantity of Spot Services is skewed towards provision of between 5 and 15 TJ/day over the Access Arrangement Period which appears to be an optimistically high estimate, equivalent to approximately 17 to 50 percent of throughput for services provided under existing contracts. The tariffs for Spot Services are likewise unsubstantiated.

In regard to the setting of tariffs for Spot Services, the Regulator regards the setting of tariffs at marginal rates to be consistent with commercial incentives of CMS regardless of the level of market power held by CMS. In the absence of any information to the contrary, the Regulator considers it appropriate for the Spot Service tariffs to be determined by the bidding procedure proposed by CMS.

Although CMS has not provided justification for levels of Spot Services and the tariffs for these services, the Regulator considers that it is appropriate for CMS to not be constrained in the development of this market and to face incentives to do so. These arrangements should foster the development of a spot market for pipeline capacity in Western Australia and ultimately the efficiency of gas transportation. Consequently the Regulator considers it appropriate to neither impose restrictions on the setting of tariffs for Spot Services, nor to include revenues gained from these services in the determination of Reference Tariffs for the Firm Extended and Interruptible Extended Services.

Proposed Reference Tariffs

- Western Power

  The proposed postage stamp tariff is anti-competitive and discriminatory. It offers no discount for Users transporting gas less than the full 416 km of the pipeline.

  CMS's competitor along a parallel pipeline has structured a tariff for distance related gas transport. The rate set from 1 January 2000 on the parallel pipeline is as follows:

Reservation Charge	\$0.000520/GJ km
Commodity Charge	\$0.000194/GJ km
TOTAL	\$0.000714/GJ km

This tariff is set on a pipeline that is 1400 km long with nine compressor stations. The Parmelia pipeline operates using one compressor station.

If this tariff structure was applied to the Parmelia pipeline the tariff applicable to the total 416 km of the Parmelia pipeline would be:

Reservation Charge	\$0.216320/GJ
Commodity Charge	\$0.080704/GJ
TOTAL	\$0.297024/GJ

- Mobil

If one examines the central tenet of the Access Arrangement being "Will the tariff unreasonably discourage downstream uses or consumers of gas?" The answer has to be yes. The alternative pipeline, the DBNGP transports gas at a distance related tariff in 1999 (described by Regulation 35.4 of the *Dampier to Bunbury Pipeline Regulations 1998*), of:

Reservation Charge	\$0.0005881/GJ km
Commodity Charge	\$0.0001944/GJ km

If one were then to calculate what tariff would then apply for a competitive tariff by the DBNGP for the length of the Parmelia pipeline (416 km) one would find the tariffs to be:

Reservation Charge for 416 km	\$0.2446/GJ
Commodity Charge for 416 km	\$0.08087/GJ

Or a total of \$0.32/GJ which is less than half of what is being proposed. Is CMS providing any competition to the operators of the DBNGP? Arguably not. It is therefore important for the Regulator to ensure that some level of competition can be created. If CMS were to offer a competitive tariff with the DBNGP it is plausible that the Parmelia pipeline would be used up to capacity. Indeed it is conceivable that the operator of the DBNGP would even examine the option of using the Parmelia pipeline rather than further investing in the DBNGP south of compressor station 8. However, with the tariff that CMS are suggesting none of the above will happen.

Maximum tariffs for gas transportation in the Dampier to Bunbury Natural Gas Pipeline are established by Section 35 of the *Dampier to Bunbury Pipeline Regulations 1998*. Section 35(4) of the Regulations provides part-haul tariffs to apply to gas transportation over a section of the pipeline that is less than the length of the full pipeline. The part-haul tariff is determined as a reduction in the maximum tariffs in proportion to the fraction of the total length of the pipeline over which the gas is being transported. The part-haul tariff is only applicable, however, to gas transportation where the outlet point from the pipeline is located north of a point in the approximate vicinity of Gingin (compressor station 9 of the Dampier to Bunbury Natural Gas Pipeline). Thus the part-haul tariff would not be compulsorily available to, for example, a Perth Basin gas producer transporting gas to the Perth metropolitan area through the Dampier to Bunbury Natural Gas Pipeline.

Regardless of the above, the equivalent part-haul tariff does not necessarily provide a basis for assessing the Reference Tariffs proposed by CMS. The transportation of gas through a pipeline involves some costs that are independent of the distance the gas is transported, thus, all other things being equal, a reasonable tariffs would be expected to decline less than proportionately with pipeline length. Furthermore, the costs of the Service Provider depend

upon factors specific to the particular business and infrastructure including the value of the capital base, the nature of services provided and characteristics of the business of the Service Provider. Reference tariffs should be determined to reflect these factors and hence tariffs are not directly comparable between pipelines. The Regulator has considered the reasonableness of the Reference Tariffs on the basis of such factors, as discussed below.

- AlintaGas

  A high asset valuation, high WACC and full escalation with CPI result in a very high Reference Tariff, resulting in no User being likely to contract to transport gas under the Reference Service. To the extent that Users continue to transport gas through the Parmelia Pipeline, they are likely to negotiate a Non-Reference Service at a lower price. The Reference Service could not reasonably be described as "one that is likely to be sought by a significant part of the market", as stipulated by clause 3.2(a)(i) of the Code.

The requirement of section 3.2(a) of the Code for a reference Service to be specified as "one that is likely to be sought by a significant part of the market" relates only to the nature of the service and not to the Reference Tariff specified for that service. The Regulator assessed the adequacy of specification of Reference Services in accordance with this requirement. The results of this assessment are documented in section 6.2 of this Draft Decision. Reference Tariffs are determined on the basis of the reasonable costs incurred in provision of the relevant Reference Services. The Regulator's assessment of the Reference Tariffs proposed by CMS is documented elsewhere in this chapter of the Draft Decision.

- North West Shelf Gas

  NWSG contend that the charges outlined in the proposed AA appear to be excessive and inappropriate. The main reason for the high tariff appears to be the high rate of return calculated for this pipeline.

  Schedule 1 of the Access Arrangement shows a tariff of A$0.83 per GJ for Firm Extended Service and A$0.747 per GJ for Interruptible Extended Service. These tariff levels appear to be considerably higher than the average expected tariffs which from our calculations appear to be from A$0.583 to A$0.575 for the years 1999 to 2003 (calculated using the revenue for existing contracts on page 60 of the AAI and the existing contracts utilised capacity on page 38 of the AAI). Our information is that current tariff levels are actually lower than this.

  That the proposed standard transportation tariff is so much higher than the tariffs currently being charged is inappropriate in our view and is likely to inhibit access by those parties who need access.

  Although the Access Arrangement Information explains that parties would be free to negotiate access to transportation services at terms better than those in the proposed Access Arrangement, this assumes that the prospective user is able to negotiate a competitive tariff. Having such a large premium above market rates accepted by the Gas Access Regulator for the standard reference service provides an unrealistically high benchmark and is not conducive to competition, economic efficiency or market growth. Indeed such a high standard tariff will inhibit access for those parties whose transport requirements are small or incremental (the most likely users of a standard tariff) and who therefore lack bargaining power. The higher than market rate standard tariff proposed would mean that such prospective users would be at a significant competitive disadvantage compared to those who enjoyed the current tariff.

The Regulator considers that the Reference Tariffs proposed by CMS may be unreasonably high as a result of factors including high values assigned by CMS to the Initial Capital Base, the Rate of Return, Capital Expenditure and Operating Expenditure, and an inappropriate allocation of costs/revenue across services. While the Regulator will make a request of CMS to provide additional information on the tariff determination prior to making a Final Decision on the Reference Tariffs, the Regulator did undertake a calculation of Reference Tariffs based on values of input variables considered to be reasonable in light of information currently available. This calculation is described below under "Additional Considerations of the Regulator".

Tariff Inflation

- Western Power

  Reference Tariffs have been proposed to be escalated quarterly by CPI. The proposal states that forecast Capital and Operating costs have been based on annual estimates. Some of these costs are not subject to CPI adjustments. An example is the cost of spares. On the parallel pipeline annual adjustments to operating costs are made to 75% of actual labour and materials. Western Power considers that operating costs should be escalated annually and not on more than 75% of actual costs.

  CMS has proposed that the Reservation Charge proportion of the tariff should be escalated by CPI. The reservation proportion of the tariff represents the return for the capital invested in the pipeline. The proposed tariff has been prepared on the basis of the Optimised Replacement Cost for the pipeline. This estimates a future cost for replacement of the pipeline. To then escalate that future estimate by CPI is claiming a double charge for capital.

- Office of Energy

  It is not clear whether the NPV analysis was undertaken on a real or nominal basis. Consistency in the treatment of input variables from this perspective would have to be ascertained.

The Regulator's evaluation of the tariff calculations undertaken by CMS indicated that the net present value calculation was undertaken on a real basis. With the exception of the Capital Base, input variables were assigned real values. CMS propose to accommodate inflation by annual inflation of the Reference Tariffs by the consumer price index (CPI). The Regulator has two concerns with this handling of inflation.

Firstly, in inflating the Capital Base on an annual basis, both the return on capital (the rate of return component) and the return of capital (depreciation) will be increased to accommodate inflation. It is reasonable as it provides for the value of the returns to investors to be maintained in real terms. However, in also providing for the inflation of Reference Tariffs, CMS are undertaking a second correction for the effects of inflation on the real value of returns on capital and returns to capital. The Regulator considers this to be inappropriate. Consistent treatment of inflation in the tariff calculation requires that all input variables to the cash flow model should be specified in either real or nominal terms.

Secondly, the inflation adjustments used by CMS has used an adjustment factor of the CPI. This does not recognise the likelihood that productivity gains may result in CMS's costs rising by a factor less than inflation and fails to accommodate any incentive mechanism for CMS to seek such productivity gains, as may be the case with, for example, use of a CPI-X framework for accommodating inflation. This matter is further discussed in relation to incentive structures in section 7.9 of this Draft Decision.

In addition to the above concerns, the Regulator considers the CPI statistic to be used by CMS in calculation of a CPI escalator is inappropriate. CMS propose to calculate the CPI escalator from the all groups CPI for Perth, Western Australia as published for each quarter by the Australian Bureau of Statistics. For consistency with regulatory practice in Australia, the Regulator prefers a wider measure of inflation to be used such as the eight capital city, all-groups CPI measure as produced by the Australian Bureau of Statistics.[41]

[41] ACCC, 1999. Draft Statement of Principles for the Regulation of Transmission Revenues.

7.8.4 Additional Considerations of the Regulator

In assessing the Reference Tariffs proposed by CMS, the Regulator undertook two evaluations:

- a verification of Reference Tariff calculations undertaken by CMS using both a stochastic methodology and a deterministic calculation;
- calculation of Reference Tariffs using values of input variables, an allocation of costs/revenues across services, and a depreciation schedule considered by the Regulator to be reasonable on the basis of information provided to the Regulator by CMS.

The results of these evaluations are described below.

Verification of the CMS Reference Tariff Calculation

CMS did not provide the Regulator with a copy of the stochastic model used to calculate Reference Tariffs. In order to verify the calculations, the Regulator constructed a new model based on the information provided in the Access Arrangement Information and verbal advice from CMS. This model utilised Excel and @Risk software for a Monte Carlo simulation, as undertaken by CMS, and the values or probability distributions of input variables indicated in section 7.5.4.10 of the Access Arrangement Information. Additionally, the tariff was determined by a deterministic calculation using the typical values of input variables as specified by CMS. The following estimates of the Reference Tariff for the Firm Extended Service were derived from this modelling.

Estimated Tariff for Firm Extended Service		
CMS Stochastic Model	Regulator's Stochastic Model	Regulator's Deterministic Model*
$0.83/GJ	$0.86/TJ	$0.85

* The deterministic model utilised the typical values of input variables indicated in section 7.5.6.10 of the Access Arrangement.

On the basis of these calculations, the Regulator is satisfied that the modelling results of CMS are reproducible. The discrepancies in the tariffs determined by CMS and the Regulator are considered to be due to rounding errors and differences in model structure.

Re-Calculation of Reference Tariffs

In assessing the tariff determination proposed in the Access Arrangement, the Regulator re-calculated the Reference Tariffs based on changes to the calculation methodology and the values of input variables discussed in this chapter of the Draft Decision. Insufficient information was provided by CMS for the Regulator to be fully satisfied as to values assigned to the input variables and various aspects of the tariff calculation methodology. The Regulator's re-calculation of tariffs provides an indication of the approximate magnitude of tariffs that could be considered reasonable on the basis of the information currently made available by CMS in the Access Arrangement and on a confidential basis to the Regulator.

As indicated earlier in this chapter of the Draft Decision, the Regulator considers that an appropriate methodology for determining the Initial Capital Base of the Parmelia Pipeline was an Optimised Deprival Value. The value ascribed to the pipeline by this methodology does, however, depend upon future expectations and projections of throughput and tariffs.

In the re-calculation of reference tariffs the Regulator contemplated two scenarios of throughput and valuation of the Initial Capital Base:

i. an Initial Capital Base of $36.6 million and a throughput over the Access Arrangement Period of around 30 TJ/day; and

ii an Initial Capital Base of $65.8 million (ie. the upper bound on the Initial Capital Base as set equal to a DORC value for a 60 TJ/day pipeline) and an increasing throughput over the Access Arrangement Period from 40TJ/day in 2000 to 60 TJ/day in 2004.

Differences in methodology and values of input variables between CMS's tariff calculation and the Regulator's re-calculation are summarised in the table below.

Model Parameter	Draft Decision Section Reference	CMS Proposal	Regulator's Estimate
Initial Capital Base	7.3	$114 million (typical value)	$36.6 million (based on economic value of current contracts) $65.8 million (based on a DORC valuation)
Capital Expenditure ($million)	7.4	**2000 2001 2002 2003 2004** 3.75 3.35 0.75 1.55 0.85	**2000 2001 2002 2003 2004** *30 TJ/day throughput* 0.25 0.25 0.25 0.25 0.25 *60 TJ/day throughput* 3.25 0.25 0.55 0.25 0.75
Operating Expenditure ($million)	7.5	**2000 2001 2002 2003 2004** 3.855 3.658 3.448 4.183 3.973	**2000 2001 2002 2003 2004** *30 TJ/day throughput* 2.657 2.132 1.869 2.657 2.657 *60 TJ/day throughput* 3.737 3.212 2.949 3.737 3.737
Rate of Return	7.6	Triangular probability distribution of: 13.5% minimum 16.0 % typical 18.6% maximum.	8.3%

Model Parameter	Draft Decision Section Reference	CMS Proposal	Regulator's Estimate
Depreciation	7.7	Straight line depreciation of the Initial Capital Base and Capital Expenditure over a single value of asset life for all assets. Asset life assigned a triangular probability distribution of: 42 years minimum 60 years typical 80 years maximum. This corresponds to a remaining asset life for the Initial Capital Base of: 14 years minimum 32 years typical 52 years maximum.	For the Initial Capital Base of $36.6 million straight line depreciation of the Initial Capital Base over a remaining asset life for principal pipeline assets of 42 years. For the initial Capital Base of $65.8 million, straight-line depreciation of $36.6 million over 42 years, and addition of incremental amounts to the depreciable Capital Base in each year as throughput is projected to increase. Straight line depreciation of Capital Expenditure over the expected life of the particular assets purchased. No depreciation of working capital.
Spot Services Revenue	7.8	Calculated stochastically from probabilistic estimates of spot services throughput and tariffs.	Not considered in the Reference Tariff determination.
Total Revenue	7.8	Net present value calculation.	Net present value calculation.
Pipeline Utilisation and Throughput	7.8	Pipeline assumed to be utilised at capacity (typical value of 86 TJ/day). Reference Services utilise all capacity not utilised for services under existing contracts, with allocation between firm and interruptible services in proportions of 74 percent and 26 percent respectively.	All throughput allocated to Firm Extended Services as follows. *30 TJ/day throughput (TJ/day)* **2000** **2001** **2002** **2003** **2004** 29.0 29.6 30.2 30.2 30.2 *Maximum 60 TJ/day throughput (TJ/day)* **2000** **2001** **2002** **2003** **2004** 40.0 45.0 50.0 55.0 60.0
Cost/Revenue Allocation	7.8	Allocation of costs/revenue to services provided under existing contracts according to the projected revenue that will be returned from these services under the terms of the contract. Allocation of costs/revenue to spot services according to projected revenue from these services with estimated throughputs and tariffs. All additional costs/revenue is allocated to reference services. A slightly higher proportion of costs/revenue is allocated to Firm Extended Services than to Interruptible Extended Services, implicit in the 10 percent lower tariff for the Interruptible Extended Service.	Allocation of costs/revenue equally across all units of throughput under existing contracts and the Firm Extended Reference Service.

Model Parameter	Draft Decision Section Reference	CMS Proposal	Regulator's Estimate
Allowance for Inflation	7.8	Annual inflation of the undepreciated component of the Capital Base. Inflation.	No inflation of the Capital Base in the Access Arrangement Period.
Tariff Calculation Methodology	7.8	Stochastic calculation (Monte Carlo simulation)	Deterministic calculation.
Indicative Total Tariff for Firm Extended Service	–	\$0.83/GJ	\$0.58/GJ (Initial Capital Base of \$36.6 million and throughput of about 30 TJ/day) \$0.57/GJ (Initial Capital Base of \$65.8 million and throughput increasing to 60 TJ/day)

An Initial Capital Base of \$36.6 million, based on projections of future throughput of around 30 TJ/day, resulted in an indicative tariff of \$0.58/GJ.[42] The tariff calculation for the Initial Capital base of \$65.8 million and throughput increasing to 60 TJ/day over the Access Arrangement Period returned a tariff of \$0.57/GJ.

The Regulator considers that CMS should be provided with the opportunity to expand the market for services on the Parmelia Pipeline and have this reflected in the Capital Base, subject to, *inter alia*, the higher value of the Initial Capital Base not giving rise to Reference Tariffs above the current average tariff for the Parmelia Pipeline. On the basis of the Initial Capital Base of \$62.5 million and the increase in throughput to 60 TJ/d, the Regulator calculated a Reference Tariff of \$0.55/GJ over the Access Arrangement Period.

The Regulator therefore considers a reasonable indicative Reference Tariff for the Parmelia Pipeline to be \$0.55 /GJ. The breakdown of this indicative tariff into reservation and commodity charges for the Firm Extended Service and Interruptible Extended Service is as follows.

Regulator's Estimated Tariff: Initial Capital Base of \$62.5 million

	Reservation Charge	Commodity Charge	Total Tariff
Firm Extended Service	\$0.44/GJ	\$0.11/GJ	\$0.55/GJ
Interruptible Extended Service	\$0.40/GJ	\$0.10/GJ	\$0.50/GJ

[42] The tariff calculated for the Initial Capital Base Value of \$36.6 million is higher than the tariff value of \$0.55/GJ that was used to calculate the value of the Initial Capital Base. This difference is due to a distortion inherent in the financial model used for calculating the tariff. This distortion arises from calculation of a tariff for the five year Access Arrangement Period, rather than the 42 year period considered in calculation of the Initial Capital Base value.

The estimated tariffs do not currently incorporate the changes to Capital Expenditure and Operating Expenditure that the Regulator concluded were necessary to include a CPI-X incentive mechanism in the Reference Tariff Policy. When this is undertaken, it is envisaged that the indicative tariff would be marginally lower than indicated above.

This tariff of $0.55/GJ (minus a correction arising from implementation of a CPI-X Incentive Mechanism) is considered to represent a reasonable balance of interests between the Service Provider and Users for the following reasons.

- The tariff is close to that which would have been derived from a DORC valuation of the pipeline, and therefore consistent with approaches of other Australian regulators to the setting of tariffs. The Initial Capital Base of $62.5 million determined by the Regulator to be acceptable for the Parmelia Pipeline is equal to 95 percent of the DORC valuation.

- With incorporation of a CPI-X incentive mechanism into the Access Arrangement, tariffs will be lower than otherwise would be the case.

- A tariff of marginally less than $0.55/GJ is consistent with the reasonable expectations of Users that regulation will provide for an overall reduction in tariffs.

7.8.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to not meet the requirements of the Code in respect of the determination of Reference Tariffs.

Required amendments to the Access Arrangement are as follows.

- Assumptions of pipeline throughput should be amended to provide for a maximum throughput of 60 TJ/day by the end of the Access Arrangement Period.

- Costs/revenue should be allocated across all services in proportion to forecasts of pipeline capacity to be used for the provision of each type of service. For the purposes of determining Reference Tariffs, this allocation of costs/revenue is equivalent to an assumption that all Users, including Users under existing contracts, are paying the Reference Tariffs.

- The proposed 10 percent lower tariff for the Interruptible Extended Service should be justified by either lower costs attributable to the Interruptible Extended Service than for the Firm Extended Service, or by the lower tariff constituting a prudent discount within the meaning of section 8.43 of the Code.

- The tariff calculation should be revised to ensure consistent treatment of inflation. In particular, the value of the Capital Base should be treated in real terms consistent with the treatment of other input variables to the tariff calculation.

- Inflation adjustments of tariffs should be based the eight capital city, all-groups CPI measure as published by the Australian Bureau of Statistics.

7.9 INCENTIVE MECHANISM

7.9.1 Access Code Requirements

Section 8.44 of the Code states that a 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 of the Code provides 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 of the Code that provides for less than a full rebate of revenues from the Rebatable Services to the Users of the Reference Service.

Section 8.46 of the Code 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 of the Code; 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).

7.9.2 Access Arrangement Proposal

CMS addressed Incentive Mechanisms in section 7.6 of the Access Arrangement Information. CMS proposed that the price path approach adopted in the determination of Total Revenue provides an incentive to seek efficiency improvements and reduce costs through allowing CMS to maintain Reference Tariffs at the predetermined level and capture any benefits from the cost reductions. CMS does not propose any sharing of benefits with Users during the Access Arrangement Period.

7.9.3 Submissions from Interested Parties

- Office of Energy

  CMS argues that the approach taken in the determination of tariffs for Reference Services is based on a "price path" philosophy (section 8.3(a) of the Code) that provides an incentive structure through prospects of greater profits if costs are reduced below levels anticipated in the determination of Reference Tariffs. Only a very detailed review and assessment of the parameters used in the tariff determination would reveal whether there is indeed a reasonable level of incentive for performance improvement in the assumed tariff path.

The Regulator concurs with CMS that the price path approach does, in-principle, provide an incentive for a Service Provider to seek efficiency gains and cost reductions. Service Agreements for Reference Services would incorporate tariffs set at pre-determined levels over the Access Arrangement Period. However, cost savings achieved in the provision of the services within the Access Arrangement Period would be fully captured by CMS. The capturing of cost savings is consistent with the principles for an Incentive Mechanism set out in sections 8.44 and 8.45(a) of the Code. However, the incentives implicit in a price path approach do not meet the requirements of section 8.46(e) of the Code due to the absence of information on the transfer of some portion of cost savings to Users, such as through a reduction in tariffs in the subsequent Access Arrangement Period.

7.9.4 Additional Considerations of the Regulator

The Regulator requires that CMS include an incentive mechanism in the Reference Tariff Policy that addresses the objectives set out in section 8.46 of the Code. The Incentive Mechanism may provide for sharing the benefits of efficiency gains and cost savings with users either within the Access Arrangement Period or in Access Arrangement Periods subsequent to the Period in which the efficiency gains were made, or both. The two timing options for sharing of the benefits of efficiency gains are discussed below.

Benefit Sharing Within the Access Arrangement Period

In the specification of Reference Tariffs, CMS has accommodated expectations of inflation over the Access Arrangement Period by proposing to inflate Reference Tariffs by the Consumer Price Index. This allows tariffs and revenues to be maintained in real terms despite price variations in business inputs.

The general regulatory approach to allowing 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.[43] However, such a measure of inflation does not recognise that input price variations in a particular industry may not change at the same rate as prices in the wider economy, and that productivity may result in increases in costs to a business increasing at a rate less than a positive rate of inflation in the wider economy. On this basis, a "CPI-X" approach to accommodating inflation is commonly adopted in regulatory regimes. "X" is some positive number that reduces the inflation factor to less than the CPI and takes into account the potential efficiency gains able to be made by a Service Provider than would result in costs rising at a rate less than the economy-wide rate of inflation. The X factor both prevents the Service Provider making windfall gains from inflation of revenues at a rate greater than inflation of costs, and creates an incentive for the Service Provider to make efficiency improvements over time at a rate at least equal to X.

The ACCC has recommended that a CPI-X regulatory structure involve the inflation of tariffs (and/or revenues) according to the formula:

$$T_n = \left(1 + \frac{CPI_n - CPI_{n-1}}{CPI_{n-1}}\right) \times (1 - X) \times T_{n-1}$$

where T is the tariff and n designates the time period.[44]

The Regulator considers that CMS should amend the Reference Tariff Policy to accommodate a CPI-X framework in inflation adjustments of Reference Tariffs.

The ACCC has recommended that the X factor be determined with a view to capturing efficiency gains and, under revenue cap regulation, to establish a smooth path of revenues and tariffs from the first year of a regulatory period to the expected revenues and tariffs in the first year of the next regulatory period. As CMS has proposed a levelised tariff over the Access Arrangement Period, efficiency gains are the only matter of relevance in setting the value of X. Efficiency gains arising from expected growth in pipeline throughput and resultant economies of scale have been incorporated into the determination of Reference Tariffs. Efficiency gains in Capital Expenditure and Operating Expenditure have not, however, been addressed. As indicated in sections 7.4 and 7.5 of this Draft Decision, projections of Capital Expenditure and Operating Expenditure should be amended to accommodate efficiency gains. Subject to the efficiency gains being incorporated into the tariff determination, it is acceptable for inflation adjustments of Reference Tariffs to be made using an "unadjusted" CPI factor. However, the section of the Access Arrangement describing Incentive Mechanisms should be amended to indicate the X factor that is implicit in the Reference Tariff determination.

Benefit Sharing Across Access Arrangement Periods

The process for review of an Access Arrangement implicitly provides for Users to benefit from efficiency gains made in a previous Access Arrangement Period in so far as revision of

[43] ACCC, 1999. Draft Statement of Principles for the Regulation of Transmission Revenues.

[44] ACCC, 1999. Draft Statement of Principles for the Regulation of Transmission Revenues.

Access Arrangement involves the determination of Total Revenue on the basis of forecasts of efficient capital and operating costs for the ensuing Access Arrangement Period. However, this may discourage a Service Provider from making efficiency improvements, particularly toward the end of an Access Arrangement Period. To counter this disincentive for efficiency improvements, an Incentive Mechanism may allow for a Service Provider to accrue ongoing benefits from efficiency improvements made in a previous Access Arrangement Period. The Regulator considers that principles established by the Victorian Office of the Regulator General[45] provide general guidance as to how this may occur. These principles are as follows.

- The default position is that Reference Tariffs will fall at the commencement of the next Access Arrangement Period to a level consistent with the recovery of the efficient costs that are attributable to the relevant Access Arrangement Period.

- If the Service Provider can demonstrate that it has undertaken an action that has reduced the cost of providing Services, then the Regulator may increase Total Revenue for the subsequent Access Arrangement Period (and possibly also for future Access Arrangement Periods) to provide the Service provider with part or all of the benefit from the cost reduction.

- In determining the extent of the benefit that should be allocated to the Service Provider, it is appropriate to take account of:

  – the extent to which the Service Provider has already benefited from the cost reduction as a result of the within-period reduction in costs of providing Services;

  – whether the cost reduction resulted in the Service Provider "catching up" to comparable businesses (in which case a smaller share of the benefit may be justified) or alternatively represents an innovation that places the Service Provider ahead of comparable firms (in which case a larger share of the benefits may be justified).

The Regulator will consider these general principles in future revisions of the Access Arrangement. No amendments to the Access Arrangement are considered necessary at the current time in respect of benefit sharing across Access Arrangement periods.

7.9.5 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to <u>not</u> meet the requirements of the Code in respect of an Incentive Mechanism.

Required amendments to the Access Arrangement are as follows.

- The Incentive Mechanism should be amended to provide for sharing the benefits of efficiency gains and cost savings with Users either within the Access Arrangement Period or in Access Arrangement Periods subsequent to the Period in which the efficiency gains were made, or both. In specifying the Incentive Mechanism, CMS should outline an

[45] 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.

acceptable CPI-X framework for accommodating inflation and efficiency gains in the determination of Reference Tariffs.

8 FEES AND CHARGES

8.1 INTRODUCTION

The Access Arrangement provides for CMS to levy a range of fees and charges on Users and Prospective Users of services provided in respect of the Parmelia Pipeline. These fees and charges comprise:

- a Service Request Administration Fee levied on Prospective Users for lodgement of an Access Request;
- Quantity Variation Charges, levied on Users in certain circumstances where quantities of gas received at a Receipt Point and delivered to a Delivery Point differ for the quantities specified in the relevant Service Agreement and/or nominations by the User;
- charges levied on Users to recoup costs incurred by CMS for unaccounted for gas and system use gas; and
- charges levied on Users to recoup costs arising from Statutory Charges incurred by CMS.

These fees and charges comprise a pecuniary impost on Users and Prospective Users in addition to service tariffs. For this reason, the Regulator considered that an assessment of fees and charges was necessary in evaluating the Access Arrangement. Furthermore, matters relating to fees and charges were raised in several public submissions on the Access Arrangement and the Regulator is obliged to consider these submissions.

8.2 ACCESS CODE REQUIREMENTS

The Code does not address the levying of fees and 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 fees and charges comprise part of the Terms and Conditions for provision of Reference Services, such matters may fall within the scope of Section 3.6 of the Code that requires an Access Arrangement to include the terms and conditions on which the Service Provider will supply each Reference Service.

In considering the fees and charges arising in respect of a Service Agreement for a Reference Service, the Regulator gave attention to the requirements of section 3.6 of the Code that requires that the terms and conditions for provision of Reference Services must, in the Regulator's opinion, be reasonable. In respect of any fees and charges levied otherwise than under a Service Agreement for a Reference Service, the Regulator considered matters set out 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.

8.3 SERVICE REQUEST ADMINISTRATION FEE

8.3.1 Access Arrangement Proposal

Sections 6.1 and 6.16 of the Access Arrangement provide for CMS to charge a fee of $10,000 for lodgement of an Access Request by a Prospective User with CMS. This Service Request Administration Fee is non-refundable except for (i) at the discretion of CMS; or (ii) where the Prospective User is notified that no queue exists for the service requested and CMS and the Prospective User do not enter into a Service Agreement. The justification provided by CMS for the fee is (i) to indicate a Prospective User's bona fides in lodging an Access Request; and (ii) to defray CMS's costs and expenses in receiving, reviewing, processing and administering the Access Request. No justification is provided by CMS for the value of the fee.

8.3.2 Submissions from Interested Parties

- North West Shelf Gas

  The A$10,000 application fee required to be paid when requesting access to transportation services is considerable and will inhibit or restrict access to those users who have a large gas demand. The application fee should be justified on the cost of processing the application and maintaining the queue. It should not be an artificial barrier to accessing transport services.

In assessing whether the charging of the Service Request Administration Fee is a reasonable practice on the part of CMS, the Regulator considered whether this fee reflects, or is likely to reflect, costs reasonably incurred by CMS in processing an Access Request.

Should CMS have to undertake investigations for the purposes of ascertaining whether an Access Request can be met, provision exists under section 5.5 of the Code and section 6.1(e) of the Access Arrangement for the reasonable costs of such investigations to be met by the Prospective User. As such, the Regulator considers that the proposed Service Request Administration Fee is not justified on the basis of recovery of reasonable costs incurred by CMS in the processing of an Access request.

8.3.3 Other Considerations of the Regulator

In assessing whether the charging of the Service Request Administration Fee is a reasonable practice on the part of CMS, the Regulator considered two matters.

i. Whether the fee reflects, or is likely to reflect, costs reasonably incurred by CMS in processing an Access Request.

ii. The practice of other Service Providers in respect of similar fees.

The matter of whether the fee reflects costs reasonably incurred by CMS in processing an Access Request was addressed above in response to a public submission with the conclusion that costs provide no justification for the fee.

A summary of fee arrangements proposed or in place for lodgement of Access Requests with other Service Providers is summarised as follows from Access Arrangement documentation.

Service Provider	Access Fee Arrangements
Epic Energy – Moomba to Adelaide Pipeline System	Proposed non-refundable application fee of $5000 to be paid to the Service Provider on the day that a Request for Service is lodged
Envestra Limited Gas Haulage Services to the Mildura Network	None.
East Australian Pipeline Limited – Moomba to Sydney Pipeline System	None.
N.T. Gas Pty. Limited – Amadeus Basin to Darwin Pipeline	None.
AGL Pipelines (NSW) Pty Limited – Central West Pipeline	None.

The Regulator identified only one Service Provider (Epic Energy – Moomba to Adelaide Pipeline System) that proposes to levy a fee resembling Service Request Administration Fee proposed by CMS, with the value of the fee being half that proposed by CMS. On this basis, the Regulator considers that a Service Request Administration Fee is not a common practice in the gas transmission industry.

In view of the lack of justification for levying of a Service Request Administration Fee on the basis of recovery of reasonable costs or common industry practice, the Regulator considers that the fee is unreasonable and contrary to the interests of the Users and Prospective Users of the Pipeline.

8.3.4 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is not considered to be reasonable in respect of the proposed Service Request Administration Fee.

Required amendments to the Access Arrangement are as follows.

- Sections 6.1 and 6.16 of the Access Arrangement should be deleted to remove provision for lodgement of an Access Request to be conditional on payment of a Service Request Administration Fee.

8.4 STATUTORY CHARGES

8.4.1 Access Arrangement Proposal

Section 14.2(c) of the General Terms and Conditions requires Users to pay to CMS an amount equal to statutory charges such as financial institutions duty which CMS is liable to pay.

8.4.2 Submissions from Interested Parties

No submissions were made on the matter of charges being levied on Users to recover costs incurred by CMS through statutory charges.

8.4.3 Additional Considerations of the Regulator

The Regulator considers that statutory charges such as financial institutions duty should be regarded as a normal business cost and incorporated into estimates of Operating Expenditure for the purposes of determining tariffs and, in general, there is no commercial justification for passing these costs on to Users as a charge in addition to service tariffs. However, the Regulator accepts representation from CMS that the separate recovery of statutory charges is an established practice in their current business. Consequently the Regulator will not require amendments to the Access Arrangement.

8.4.4 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is considered to be acceptable in respect of the proposal to recoup costs of statutory charges from Users as an additional charge to Reference Tariffs.

8.5 QUANTITY VARIATION CHARGES

8.5.1 Access Arrangement Proposal

Section 10 of the General Terms and Conditions provides for CMS to levy charges (Quantity Variation Charges) on Users in certain circumstances where Users do not manage the receipt of gas into the pipeline and/or the delivery of gas from the pipeline in accordance with relevant conditions of Service Agreements and/or Users' daily nominations of intended gas transportation. CMS states that the purpose of Quantity Variation Charges is to provide a disincentive to Users to not utilise the Parmelia Pipeline in the manner intended, and thereby avoid operational disturbances and disadvantage to other pipeline Users.

Section 10 of the General Terms and Conditions provides for CMS to levy Quantity Variation Charges in respect of several circumstances. The circumstances and the formulae for calculation of Quantity Variation Charges are defined in schedule 2 of the General Terms and Conditions, and summarised as follows.

- Cumulative Gas Imbalance – an arithmetic sum of daily gas imbalances which are calculated as the difference in the quantity of gas received into the pipeline and the quantity of gas delivered from the pipeline for individual Gas Days. A Cumulative Gas Imbalance Charge may be levied if the Cumulative Gas Imbalance falls outside of a specified tolerance. The Cumulative Gas Imbalance Charge is determined as a multiple of the tariff for the service under which gas transportation occurs, in accordance with a formula that takes into account the magnitude of the Cumulative Gas Imbalance relative to the MDQ of the User. The Cumulative Gas Imbalance Charge per unit of the Cumulative Gas Imbalance is an increasing function of the Cumulative Gas Imbalance.

- Daily Overrun – an excess of the quantity of gas received or delivered into or from the pipeline for a particular Gas Day over the quantity nominated to be received or delivered on that Gas Day. A Daily Overrun Charge may be levied if the Daily Overrun exceeds a specified tolerance. The Daily Overrun Charge is determined as a multiple of the tariff for the service under which gas transportation occurs, in accordance with a formula that takes into account the magnitude of the Daily Overrun relative to the receipt or delivery quantity nominated by the User. The Daily Overrun Charge per unit of the Daily Overrun is an increasing function of the Daily Overrun.

- Daily Underrun – a deficit of the quantity of gas received or delivered into or from the pipeline for a particular Gas Day under the quantity nominated to be received or delivered on that Gas Day. A Daily Underrun Charge is determined on the same basis as the Daily Overrun Charge.

- Hourly Overrun – an excess of the maximum quantity of gas received or delivered into or from the pipeline for any hour of a Gas Day over the maximum hourly quantity permitted for particular Receipt Points or Delivery Points in accordance with a User's nomination for that Gas Day. An Hourly Overrun Charge may be levied if the Hourly Overrun exceeds a specified tolerance. The Hourly Overrun Charge is determined as a multiple of the tariff for the service under which gas transportation occurs, in accordance with a formula that takes into account the magnitude of the Hourly Overrun relative to the maximum hourly quantity determined for a the relevant User and the relevant Receipt Point or Delivery Point. The Hourly Overrun Charge per unit of the Hourly Overrun is an increasing function of the Hourly Overrun.

- Maximum Flow Rate Overrun – an excess of the peak flow rate of gas at a Receipt Point or Delivery Point for a particular hour over the specified maximum flow rate for the Receipt Point or Delivery Point. A Maximum Flow Rate Overrun Charge may be levied for any Maximum Flow Rate Overrun. The Maximum Flow Rate Overrun Charge is determined as a multiple of the tariff for the service under which gas transportation occurs, in accordance with a formula that takes into account the magnitude of the Maximum Flow Rate Overrun relative to the maximum flow rate for the relevant User and the relevant Receipt Point or Delivery Point. The Maximum Flow Rate Overrun Charge per unit of the Maximum Flow Rate Overrun is an increasing function of the Maximum Flow Rate Overrun.

8.5.2 Submissions from Interested Parties

Application of Quantity Variation Charges

- AlintaGas

  AlintaGas is concerned that some quantity variation charges (such as the Daily Overrun Charge) are based on exceeding a User's daily nominated quantity and not, as would be more appropriate, exceeding a User's MDQ. The result is that circumstances can arise where a User will pay twice for the use of reserved capacity. Why should a User be forced to pay a penalty for exceeding its nominated quantity when the amount of gas taken is less than its MDQ? The User, after all, is already required to pay a Reservation Charge, whether or not it uses its full contractual entitlement. As a matter of principle, a User should be able to receive gas without penalty at a delivery point up to the User's MDQ, regardless of the quantity nominated. To the extent the pipeline operator wishes to sell spare capacity which is reserved (and paid for) but for which no nomination has been received, it should do so on an interruptible basis.

In assessing the reasonableness of Quantity Variation Charges proposed by CMS for the Parmelia Pipeline, the Regulator examined Quantity Variation Charges for several other Australian gas transmission pipelines, a summary of which is provided below under "Additional Considerations of the Regulator". On the basis of this examination, the Regulator considers that it is common industry practice for Service Providers to make provision to apply Quantity Variation Charges in respect of discrepancies between a User's nominated and realised receipts or deliveries of gas. As such, the Regulator considers the proposal by CMS to apply Quantity Variation Charges on a similar basis to be reasonable.

- AlintaGas

  The Access Arrangement Information does not provide sufficient information for AlintaGas Trading to form a view as to whether the tolerances for the application of quantity variation charges are reasonable.

CMS has provided for Quantity Variation Charges to be applied when Quantity Variations exceed specified tolerances. These tolerances are specified in schedule 2 of the General Terms and Conditions as follows.

Quantity Variation	Specified Tolerance before Quantity Variation Charges may be Applied
Cumulative Gas Imbalance	The lesser of 8percent of the MDQ for the relevant service, or 1 TJ.
Daily Overrun or Daily Underrun	The lesser of 8 percent of the nominated gas quantity for the relevant service and the relevant Gas Day, or 1 TJ.
Hourly Overrun	The lesser of 8percent of the MHQ for the relevant service or 0.05 TJ.
Maximum Flow Rate Overrun	No tolerance.

In assessing the reasonableness of tolerance limits proposed by CMS for the Parmelia Pipeline, the Regulator examined tolerance limits for several other Australian gas transmission pipelines. Tolerance limits provided or proposed under Access Arrangements for other pipelines are as follows.

Service Provider and Pipeline	Tolerance Limit on Gas Imbalances
AGL Pipelines (NSW) Pty Limited Central West Pipeline[46]	No specified limit, but stating that AGLP may take action if the imbalance is likely to jeopardise the ability of AGLP to comply with the requirements of any Service Agreement or to operate the Pipeline properly.
N.T. Gas Pty Limited Amadeus Basin to Darwin Pipeline[47]	No specified limit, but stating that AGLP may take action if the imbalance is likely to jeopardise the ability of AGLP to comply with the requirements of any Service Agreement or to operate the Pipeline properly.
East Australian Pipeline Limited Moomba to Sydney Pipeline[48]	10 percent of the User's MDQ for daily imbalance and 2% and 0.5% of the MDQ for the cumulative imbalance over weekly and monthly periods respectively.
EPIC Energy South Australia Pty Ltd – Moomba to Adelaide Pipeline[49]	8 percent of nominated daily quantities in assessing daily imbalances.

Although CMS has specified explicit tolerance limits in terms of gas quantities rather than allowing for effects on pipeline operation, the specified tolerances conform with tolerances specified for at least two other gas transmission pipelines in Australia and are therefore regarded by the Regulator as consistent with common industry practice and, on this basis, reasonable.

Rates of Quantity Variation Charges

- AlintaGas

  The Access Arrangement Information does not provide sufficient information for AlintaGas Trading to form a view as to whether the tolerances for the application of quantity variation charges and the quantum of the penalty charges are fair and reasonable.

- Boral Energy

  Boral accepts the intention of CMS to use a sliding factor based on the degree of error in the calculation of quantity variation charges. However, the value attributed to PRM_GI, PRM_DO, PRM_DU, PRM_HO and PRM_MFRO of 40 would appear high, and will have the effect of imposing very high quantity variation charges.

- North West Shelf Gas

  The charges that are proposed in Schedule 2 of the Access Arrangement relating to imbalance charges appear to be excessive. Whilst the 'operating margin' of 8% is in line with industry practice the sliding scale of charges appears to be unnecessarily punitive. For example, in a case where a User (with an MDQ of 5 TJ) is unable to accept any deliveries from the pipeline on a particular day but the producer delivers the full daily nomination of say 5 TJ to the pipeline, then the penalty charges would be more than A$140,000 or

[46] Access Arrangement submitted to the ACCC 31 December 1998.

[47] Access Arrangement submitted to the ACCC 25 June 1999.

[48] Access Arrangement submitted to the ACCC 5 May 1999.

[49] Access Arrangement submitted to the ACCC 1 April 1999.

almost 34 times the full standard tariff (reservation plus commodity charges) applied to the full nomination. Such large charges are not reflective of the actual costs (increased administration and compressor fuel) that may result from such a variation. Indeed such a 5 TJ variation is stated (page 36 of Access Arrangement Information) to be within the operational capacity of the Parmelia pipeline.

The Hourly Overrun and Maximum Flow Rate Overrun charges proposed appear to be similarly punitive and do not reflect the reality of the impact of such events on a pipeline which is (for the moment) essentially in free flow from the Dongara plant.

The proposed Quantity Variations and Charges could allow the pipeline operator to extract an apparently unfair rent from Users as a result of occasional upsets in the Users' (or producers) daily operations. The imbalance charges are likely to be economically inefficient, as they would also cause Users to dedicate resources to manage their nominations within the tolerances; resources which could be focused elsewhere in more productive areas.

In assessing the reasonableness of Quantity Variation Charges proposed by CMS for the Parmelia Pipeline, the Regulator examined Quantity Variation Charges for several other Australian gas transmission pipelines, a summary of which is provided below under "Additional Considerations of the Regulator". The rates of Quantity Variation Charges able to be applied by CMS are substantially in excess of the rates provided for in Access Arrangements for other pipelines. CMS has not provided justification for the differences from common industry practice and in view of this the Regulator considers the proposed Quantity Variation Charges to be unreasonable.

8.5.3 Additional Considerations of the Regulator

In assessing the reasonableness of the quantity variation charges proposed by CMS, the Regulator gave consideration to common practice of the gas transportation industry in respect of such charges. Provision of Access Arrangements for several other Service Providers were used as indicators of common industry practice and are summarised as follows.

Quantity Variation Charges of Gas Transportation Service Providers

Service Provider and Pipeline	Provision for Quantity Variation Charges	Quantity Variation Charge
AGL Pipelines (NSW) Pty Limited Central West Pipeline[50]	Imbalance Charge A User has a one month grace period to correct a gas imbalance accrued in a previous month. After the grace period, the Service Provider may alter gas receipts and deliveries to correct the imbalance. If an imbalance still remains, the Service Provider may charge the User an imbalance charge calculated my multiplying the imbalance by an imbalance rate and, in the case of an imbalance shortfall, purchase gas at the relevant Receipt Point and charge the User the price paid for that gas.	Imbalance rate not specified in the Access Arrangement.

[50] Access Arrangement submitted to the ACCC 31 December 1998.

Service Provider and Pipeline	Provision for Quantity Variation Charges	Quantity Variation Charge
	Daily Variance Charge	
	A daily variance charge may be levied on a User if there is a daily variance of more than 10 percent of the Delivery Point MDQ or Receipt Point MDQ for more than 4 days in a month or 24 days in a contract year.	Daily variance rate not specified in the Access Arrangement.
N.T. Gas Pty Limited Amadeus Basin to Darwin Pipeline[51]	Imbalance Charge	
	A User has a one month grace period to correct a gas imbalance accrued in a previous month. After the grace period, the Service Provider may alter gas receipts and deliveries to correct the imbalance. If an imbalance still remains, the Service Provider may charge the User an imbalance charge calculated my multiplying the imbalance by an imbalance rate and, in the case of an imbalance shortfall, purchase gas at the relevant Receipt Point and charge the User the price paid for that gas.	250 percent of relevant service tariff.
	Daily Variance Charge	
	A daily variance charge may be levied on a User if there is a daily variance of more than 10 percent of the Delivery Point MDQ or Receipt Point MDQ for more than 4 days in a month or 24 days in a contract year.	120 percent of relevant service tariff.
East Australian Pipeline Limited Moomba to Sydney Pipeline[52]	Imbalance Charge	
	If the User, after notice from EAPL to overcome an imbalance, does not rectify the imbalance, and EAPL is unable to cease receipt from or delivery to the User to overcome the imbalance, then EAPL may impose balancing charges on the User	150% of cost to EAPL of the quantity of gas required to restore the User Inventory to zero plus service fee of $2000.
	Daily Overrun Charge	
	If a User exceeds its MDQ, or the quantity of gas accepted by EAPL as an authorised overrun is exceeded, then the excess quantity of gas will be treated as an unauthorised overrun for which the User will be required to pay an "unauthorised overrun charge". If because of a User's unauthorised overrun EAPL is unable to comply with obligations to transport Gas for other Users, then the User will be liable for any loss, cost or damage EAPL may incur, including consequential loss.	350 percent of relevant capacity tariff and 100 percent of relevant throughput tariff for unauthorised overrun.

[51] Access Arrangement submitted to the ACCC 25 June 1999.

[52] Access Arrangement submitted to the ACCC 5 May 1999.

Service Provider and Pipeline	Provision for Quantity Variation Charges	Quantity Variation Charge
EPIC Energy South Australia Pty Ltd – Moomba to Adelaide Pipeline[53]	Daily Imbalance If, on a Day, actual deliveries differ by more than 8% from actual receipts (less a retention allowance plus an imbalance correction quantity), then the amount of that difference will be the excess imbalance, and an excess imbalance charge will be payable by the User. The excess imbalance charge will be calculated by multiplying the number of GJ's of excess imbalance by the excess imbalance charge rate.	Excess imbalance charge rate is \$0.30/GJ.

The schedule of Quantity Variation Charges proposed by CMS for the Parmelia Pipeline differ substantially from the charges provided for in other pipeline Access Arrangements in several respects, as follows.

- From the Access Arrangements reviewed in respect of quantity variation charges, common practice in the industry appears to be for such charges to apply in two general circumstances:

  – daily imbalances or daily overruns; and

  – monthly or longer term imbalances.

  In addition to the above circumstances, CMS provide for quantity variation charges to apply to Hourly Overruns and Maximum Flow Rate Overruns.

- The Access Arrangements reviewed in respect of quantity variation charges provide explicitly for grace periods in which a User may correct gas imbalances before quantity variation charges will apply. Although the General Terms and Conditions for the Parmelia Pipeline allow for CMS to exercise discretion in the application of Quantity Variation Charges, there is no explicit provision made for grace periods.

- The Access Arrangements reviewed in respect of quantity variation charges provide for charges to be levied at a constant rate per unit of imbalance. The rate is typically a multiple of the relevant service tariff, ranging between 100 and 350 percent of the relevant service tariff. CMS propose to levy charges at an increasing rate per unit of imbalance, with the rate being a function of the size of the imbalance relative to the scale of the service provided to the User. This results in the charge rates of CMS being substantially higher than would be applied by other Service Providers where the magnitude of the imbalance is more than about 20 percent of the benchmark quantity from which the imbalance is calculated. For example, the daily overrun or underrun charge rates that may apply to an hypothetical User of the Parmelia Pipeline with an MDQ of 5TJ/day, a nominated throughput of 5TJ for a particular Gas Day, and overruns or underruns of 0.5, 1.0, 2.5 or 5.0 TJ are as follows for that Gas Day.

[53] Access Arrangement submitted to the ACCC 1 April 1999.

Overrun or Underrun for a Gas Day (TJ)	Overrun or Underrun Charge Rate (per GJ of overrun or underrun)
0.5	0.8 × (Reservation Tariff + Consumption Tariff)
1.0	4.8 × (Reservation Tariff + Consumption Tariff)
2.5	16.8 × (Reservation Tariff + Consumption Tariff)
5.0	36.8 × (Reservation Tariff + Consumption Tariff)

In this example, the charge rate per unit of overrun or underrun vary from 480 percent to 3680 percent of the relevant service tariff for overruns or underruns in excess of 20 percent of the User's nominated throughput for the Gas Day. These rates are substantially greater than for the other pipelines discussed above, which had charge rates of 100 to 300 percent of the relevant service tariff.

The Regulator considers that the provisions in the Access Arrangement for Quantity Variation Charges are substantially more onerous than is common practice for the industry. CMS has not provided justification for the departure from common industry practice and in view of this the Regulator considers the proposed Quantity Variation Charges to be unreasonable.

8.5.4 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is not considered to be reasonable in respect of the proposed Quantity Variation Charges.

Required amendments to the Access Arrangement are as follows.

- Section 10 and schedule 2 of the General Terms and Conditions should be amended to remove provision for CMS to apply Quantity Variation Charges in respect of Hourly Overruns and Maximum Flow Rate Overruns.
- Section 10 and schedule 2 of the General Terms and Conditions should be amended to provide Users with a grace period to correct gas imbalances before quantity variation charges may be applied in respect of the imbalances.
- Section 10 and Schedule 2 of the General Terms and Conditions should be amended to provide for maximum rates of Quantity Variation Charges to be no more than 350 percent of the service tariff for the relevant service per GJ of the quantity variation.

8.6 CHARGES FOR UNACCOUNTED FOR GAS AND SYSTEM USE GAS

8.6.1 Access Arrangement Proposal

Section 15 of the General Terms and Conditions provides for CMS to charge users for System Use Gas as an additional charge to transport tariffs. Section 15.3 of the General Terms and Conditions provides for the System Use Gas Charge to be determined on the basis of gas prices reasonably nominated by CMS, which may vary from time to time.

8.6.2 Submissions from Interested Parties

- Western Power

  The User is liable for payments to CMS for System Use Gas (User Fuel Gas and User Spent Gas) at a tariff determined solely by CMS and may be significantly higher than the Reference Tariff. It represents another hidden charge which adds to the total transport costs.

  The User pays for User Spent Gas (gas lost, vented, unaccounted) on a proportion basis of User gas to total throughput. Thus CMS is compensated for any losses – this may be a disincentive for them to repair leaks and losses as they are always compensated. Users should not be expected to pay for Gas which is not measured (unaccounted).

In considering the reasonableness of CMS's proposal to charge Users for System Use Gas, the Regulator examined relevant practices in other gas transmission pipelines. A summary of practices in other pipelines is as follows.

Service Provider and Pipeline	Arrangements for Provision of System Use Gas
AGL Pipelines (NSW) Pty Limited – Central West Pipeline	User supplies a proportional share of System Use Gas to the pipeline at its own cost.
East Australian Pipeline Limited – Moomba to Sydney Pipeline	User supplies a proportional share of System Use Gas to the pipeline at its own cost, or Service Provider provides System Use Gas and charges the User.
EPIC Energy South Australia Pty Ltd – Moomba to Adelaide Pipeline	User supplies a proportional share of System Use Gas to the pipeline at its own cost.
Goldfields Gas Transmission P/L – Goldfields gas Transmission Pipeline	Service Provider provides System Use Gas and charges the User.

Practices for provision of System Use Gas vary between pipelines, however both provision by the User and provision by the Service Provider at the cost of the User are common industry practice. The proposal by CMS to purchase System Use Gas and pass the cost on to users as a System Use Gas Charge is consistent with common industry practice and is therefore considered reasonable. Notwithstanding this, the Regulator considers that a cost reference or benchmark for System Use Gas Charges should be provided rather than having these charges determined fully at the discretion of CMS.

In regard to unaccounted for losses of gas from the pipeline, the Regulator considers that for a high-pressure transmission pipeline, the Service Provider faces sufficient incentive to

minimise these losses through the need to maintain structural and operational integrity of the pipeline and compliance with health and safety regulations and environmental regulations.

8.6.3 Additional Considerations of the Regulator

The Regulator had no concerns with proposals for System Use Gas Charges other than that which has been addressed above in relation to public submissions.

8.6.4 Acceptability of the Access Arrangement and Required Amendments

The Access Arrangement is not considered to be reasonable in respect of the proposed System Use Gas Charges.

Required amendments to the Access Arrangement are as follows.

- Section 15 of the General Terms and Conditions should be amended to establish a reasonable benchmark for determining costs passed on to Users as a System Use Gas Charge.

9 OTHER ISSUES RAISED IN PUBLIC SUBMISSIONS

The Regulator has responded to public submissions in the sections of the Draft Decision that relate to the specific matters raised in the submissions. All matters raised in the submissions have been addressed in this manner with the exception of the following submission relating to safety in operation of the pipeline.

- Combustion Air Pty Ltd

  The Access Arrangement is deficient in failing to provide information on safety requirements and the mutual obligations of a gas supplier and the industry using the gas. The lack of reference to safety is inconsistent with the requirements of section 8.1(c) of the Code that requires a Reference Tariff and Reference Tariff Policy to be designed with a view to ensuring the safe and reliable operation of the pipeline.

  The past decision of the Victorian Office of the Regulator General to increase an asset beta value from that proposed in an Access Arrangement indicates a misunderstanding of gas safety as being a diversifiable risk.

The intent of 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, Operating Expenditure and Incentive Mechanisms that are consistent with management of the pipeline in a manner that meets appropriate safety standards. In assessing the Reference Tariffs proposed by CMS, the Regulator sought independent technical advice on levels of Capital Expenditure and Operating Expenditure that could reasonably be regarded as necessary for operation of the Parmelia Pipeline, including any investment or activities 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.

The matters of "risk" considered in determination of asset beta values relate to commercial and financial risks of the Parmelia Pipeline project. 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 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.