OFFICE OF GAS ACCESS REGULATION

OffGAR WESTERN AUSTRALIA

DRAFT DECISION
ACCESS ARRANGEMENT
GOLDFIELDS GAS PIPELINE

Submitted by

GOLDFIELDS GAS TRANSMISSION PTY LTD

Part B
Supporting Information

INDEPENDENT GAS PIPELINES ACCESS REGULATOR

WESTERN AUSTRALIA

10 April 2001

PREFACE

On 15 December 1999, Goldfields Gas Transmission Proprietary Limited (GGT) submitted a proposed Access Arrangement for the Goldfields Gas Pipeline (Pipeline Licence No WA: PL24) on behalf of the owners of the pipeline. The owners of the pipeline are an unincorporated joint venture comprising:

Southern Cross Pipelines Australia Pty Ltd	62.664%
Southern Cross Pipelines (NPL) Australia Pty Ltd	25.493%
Duke Energy International	11.843%

Ownership of the Southern Cross companies comprises CMS Gas Transmission of Australia (CMS) (45%), Australian Gas Light Company (AGL) (45%) and TransAlta Energy (Australia) Pty Ltd (TransAlta) (10%). In the time since the proposed Access Arrangement was submitted AGL has divested its interest in the Goldfields Gas Pipeline to Australian Pipeline Limited (APL).

GGT is the operator of the pipeline and acts on behalf of each of the owners.

The proposed Access Arrangement was submitted to the Western Australian Independent Gas Pipelines Access Regulator (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 GGT will make access to the Goldfields Gas Pipeline available to third parties.

The Regulator has assessed the proposed Access Arrangement against the requirements and principles of the *Gas Pipelines Access (WA) Act 1998*. This Act gives effect to the *Gas Pipelines Access (WA) Law*, which includes schedule 1 of the Act and the Code. The Regulator also considered issues that were raised in submissions made on the proposed Access Arrangement by interested parties.

This Draft Decision has been issued by the Regulator in accordance with the requirements of the Code. The Draft Decision is issued as two documents: Part A being the Draft Decision, and Part B being supporting information for the Draft Decision. Copies of both Parts A and B of the Draft Decision are available from the Office of Gas Access Regulation at a cost of $25.00 (including GST) by contacting Mr Nick Parkhurst on telephone +61 8 9213 1933 or facsimile +61 8 9213 1999. Copies are also available from the Office of Gas Access Regulation (O*ff*GAR) web site (http://www.offgar.wa.gov.au/) free of charge.

Submissions

Submissions are invited from interested parties on the Draft Decision.

In general, all submissions from interested parties will be treated as in the public domain and placed on the O*ff*GAR web site. The receipt and publication of any submission lodged for the purposes of the Code shall not be taken as indicating that the Regulator has formed an opinion as to whether or not any particular submission contains any information of a confidential nature.

Where an interested party wishes to make a submission in confidence, it should clearly indicate the parts of the submission in respect of which confidentiality is claimed. Any claim of confidentiality will be considered in accordance with the provisions of section 7 of the Code.

Submissions must be delivered to the Office of Gas Access Regulation by close of business WST Thursday 31 May 2001, and should be addressed to:

Mr Nick Parkhurst
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 electronic format.

KEN MICHAEL
GAS ACCESS REGULATOR

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GLOSSARY

The explanations provided for each of the terms set out below in this Glossary are for the assistance of readers only. Some of these terms are defined in the *Gas Pipelines Access (WA) Act 1998*, the *Goldfields Gas Pipelines Agreement Act 1994* or the proposed Access Arrangement for the Goldfields Gas Pipeline as submitted to the Regulator by the GGT and readers are referred to those sources for further details of the meaning of those terms.

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 as required to be provided by Section 2.2 of the Code.
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), 64 and 68(1), includes a person acting under section 71 of the *Gas Pipelines Access (WA) Act 1998*.
Bare Transfer	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 measure of the potential of a Covered Pipeline as currently configured to deliver a particular Service between a Receipt/Inlet Point and a Delivery/Outlet Point at a point in time.
Capacity Management Policy	A policy that is required to be in the Access Arrangement indicating whether the Covered Pipeline is to be administered as a Contract Carriage Pipeline or a Market Carriage Pipeline.
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 Base	Has the meaning given to "Capital Base" in section 8.4 of the Code.
Capital Contribution	Has the meaning given to "Capital Contribution" in section 8.23 of the Code.
Capital Expenditure	Expenditure on a Covered Pipeline and associated regulated assets to be incorporated into the Capital Base of the pipeline.

Code	The *National Third Party Access Code for Natural Gas Pipeline Systems.*
Commencement Date	The date at which a Service Agreement between GGT and a User commences.
Consent Transfers	A transfer by a User of all or part of its contracted pipeline capacity where the transfer is subject to the consent of the Service Provider.
Contract Carriage	A system of managing third party access whereby the Service Provider normally manages its ability to provide Services primarily by requiring Users to use no more than the quantity of service specified in a contract (defined in detail in the Code).
Contracted Capacity	The nominal quantity of gas transportation to be undertaken under a service agreement between a User and the Service Provider.
Covered Pipeline	The whole or particular part of a pipeline that is regulated under the Code.
Declining Balance Depreciation	The depreciation amount in each year is calculated as a constant proportion of the written down value of the asset.
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).
Depreciated Adjusted Historical Cost	The value that would result from taking actual capital cost of the Covered Pipeline adjusted for inflation and depreciated to account for the age of the asset.
Depreciated Optimised Replacement Cost	Is the depreciated minimum cost of replacing or replicating the service potential embodied in a pipeline or pipeline network with modern equipment and in the most efficient way practicable, from an engineering perspective, given the service requirements, the age and condition of the existing assets and replacement in the normal course of business.
Depreciation Schedule	The Depreciation Schedule is the set of depreciation schedules that is the basis upon which the assets that form part of the Capital Base are to be depreciated for the purposes of determining a Reference Tariff.
Developable Capacity	Developable Capacity is the difference between existing capacity and the capacity that would be available if additions of plant and/or pipeline were made, but does not include any extensions of the geographic range of the service.
Effective Date	The date on which the Access Arrangement comes into effect, as specified by the Regulator.

Enquiry Form	An Enquiry Form means an enquiry for use of the Reference Service completed in the form of Appendix 2.1 of the Access Arrangement and completed under clause 6.1 of the Access Arrangement.
Exclusivity Right	A contractual right that by its terms either: (a) expressly prevents a Service Provider supplying Services to persons who are not parties to the contract; or (b) expressly places a limitation on the Service Provider's ability to supply Services to persons who are not parties to the contract, but does not include a User's contractual right to obtain a certain volume of Services.
Extensions/ Expansions Policy	A policy that is required to be included in an Access Arrangement which sets 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.
Fixed Period	The period during which a Fixed Principle may not be changed.
Fixed Principle	An element of the Reference Tariff Policy that cannot be changed without the agreement of the Service Provider.
Goldfields Gas Pipeline	The pipeline system that is the subject of Pipeline License Number WA: PL24 issued under the *Petroleum Pipelines Act 1969 (WA).*
Grandfathered Contract	A contract for the provision of gas transportation services, whether or not in conjunction with other services, entered into before the latest date for complying with the ring fencing provisions of the Code.
Haulage Contract	An agreement entered into between a Pipeline Service Provider and a User under which the Pipeline Service Provider agrees to provide a Reference Service on terms and conditions as set out in an Access Arrangement.
Incremental Capacity	Is the increase in Capacity attributable to a New Facility.
Incremental User	Is a User that could not have been serviced without the addition of Incremental Capacity.
Inlet Point	A point on a pipeline at which the custody of gas is transferred from a User to the Service Provider. Referred to in the Code as a Receipt Point.
Incentive Mechanism	Incentive Mechanism has the meaning given to **"**Incentive Mechanism**"** in sections 8.44 and 10.8 of the Code.

Initial Capital Base	Initial Capital Base means the Capital Base at the commencement of the first Access Arrangement Period.
Initial Committed Capacity	The capacity taken by Initial Customers as defined by clause 8(3)(b) of the *Goldfields Gas Pipeline Agreement Act 1994*. In effect, this is the initial reserved capacity that was committed to by the original owners. The initial reserved capacity that was committed to is 98TJ/d with an assumed initial throughput of 71TJ/d.
Initial Customers	The parties that committed to capacity as defined by clause 8(3)(a) of the *Goldfields Gas Pipeline Agreement Act 1994*. As there were no initial third party customers that committed to use the pipeline the term Initial Customers refers only to the GGT JVs.
Internal Rate of Return	The discount rate used in cash flow analysis that returns a Net Present Value of zero.
Levelised Tariff	A levelised tariff is a Discounted Weighted Average Tariff (DWAT) that calculates the charge per unit of forecast throughput in present value terms discounted at an appropriate discount rate to allow for the time value of money over the entire economic life of the assets.
Market Carriage	A system of managing third party access whereby the Service Provider does not normally manage its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in a contract (defined in more detail in the Code).
Market Variable Element	A factor that has a value assumed in the calculation of a Reference Tariff, where the value of that factor will vary with changing market conditions during the Access Arrangement Period or in future Access Arrangement Periods, and includes the sales or forecast sales of Services, any index used to estimate the general price level, real interest rates, Non-Capital Cost and any costs in the nature of Capital Costs.
Minister	Is the Western Australian Minister for Energy unless otherwise indicated.
National Electricity Market	The interconnected electricity transmission and distribution grid supplying electricity to consumers in Queensland, New South Wales, Victoria and South Australia and incorporating a common carriage regime.
Natural Gas Pipelines Access Agreement	A national agreement endorsed by CoAG and signed by all Australian Heads of Government on 7 November 1997 to introduce a national gas pipelines access regime.
National Gas Pipelines Access Law	Comprises Schedules 1 and 2 of the *Gas Pipelines Access (WA) Act 1998*. Schedule 2 of the Act is the Code.

New Facilities Investment	Capital costs incurred after the commencement of a new Access Arrangement Period and in relation to modifying or adding to existing assets for the purpose of providing services.
New User	A third party to whom a User transfers capacity under the Trading Policy.
Non-Capital Costs	Non-Capital Costs has the meaning given to **"**Non-Capital Costs**"** in section 8.4 of the Code, which at the date of the publication of this decision was: "...the operating, maintenance and other Non-Capital Costs incurred in providing all Services provided by the Covered Pipeline".
Non-Reference 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 Replacement Cost	Is the minimum cost of replacing or replicating the service potential embodied in a pipeline or pipeline network with modern equipment in the most efficient way practicable, from an engineering perspective, given the service requirements.
Order Form	The order form for Prospective Customers provided in Appendix 2.2 of the Access Arrangement and submitted by a Prospective User under clause 6.3 of the Access Arrangement.
Outlet Point	A point on a pipeline at which the custody of gas is transferred from the Service Provider to the User. Referred to in the Code as a Delivery Point.
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 that defines the priority that a Prospective User has over another Prospective User to negotiate for specific Capacity.
Rate of Return	Rate of Return has the meaning given to **"**Rate of Return**"** in section 8.4 of the Code, which at the date of the publication of this decision was: "...a return (Rate of Return) on the value of the capital assets that form the Covered Pipeline (Capital Base)."
Relevant Minister	Is the Minister that has jurisdiction in respect of a particular decision. In Western Australia the Relevant Minister is the Minister for Energy.

Reference Service	A Service that is specified as a Reference Service in an Access Arrangement.
Reference Tariff	A tariff specified in an Access Arrangement as corresponding to a Reference Service.
Regulator	The office of the Independent Gas Pipelines Access Regulator in Western Australia established by section 27 and, except in sections 27(2), 29 and 33, includes a person acting under section 35 of the *Gas Pipelines Access (WA) Act 1998*.
Residual Value	The value of the Capital Base at the end of an Access Arrangement Period after allowing for Capital Expenditure, Redundant Capital and Depreciation during the Period.
Revisions Commencement Date	A date upon which the next revisions to the Access Arrangement are intended to commence.
Revisions Submissions Date	A date upon which the Service Provider must submit revisions to the Access Arrangement.
Ring Fencing	A requirement on a Service Provider to establish arrangements to segregate or "ring fence" its business of providing Services using a covered pipeline from other business activities.
Scheme Participant	Scheme Participant means the State of Western Australia as defined in section 11 of the *Gas Pipelines Access (Western Australia) Act 1998*.
Service	A Reference Service or Non-Reference Service relating to the transportation of gas by a Service Provider, and in the case of a Service Agreement means the particular reference Service or Non-Reference Service the subject of that Service Agreement.
Service Agreement	An agreement between a Service Provider and a User for the provision of a Service.
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.
Services Policy	An Access Arrangement must include a policy on the Services to be offered, including a description of one or more Services. A Services Policy commits a Service Provider to making available Reference Services to Prospective Users, and for the provision of Non-Reference Services to Prospective Users.
Spare Capacity	Is the difference between the capacity and the firm service reserved capacity plus the difference between the firm service reserved capacity and the firm service reserved capacity being utilised.

State Agreement Act	Refers generally to agreements signed between the State Government and resource companies to develop the State's resources. These agreements are Acts of Parliament that confer rights and responsibilities on each party. In this Draft Decision reference to "the State Agreement Act" is to the *Goldfields Gas Pipeline Agreement Act 1994*, which was agreed between the State and the proponents of the Goldfields Gas Pipeline in 1994.
Straight Line depreciation	The depreciation amount in each year is calculated by dividing the initial cost of the asset by the economic life of the asset.
Structural Element	Any principle or methodology that is used in the calculation of a Reference Tariff where that principle or methodology is not a Market Variable Element and has been structured for Reference Tariff purposes over a longer period than a single Access Arrangement Period.
Surcharge	Has the meaning given in sections 8.25 of the Code and which has the effect defined in section 6.19 of the Code.
Supplementary Quantity Option	An interruptible service offered to Users to allow them to correct imbalances or transport gas in excess of their Maximum Daily Quantity (MDQ) on an occasional basis.
System Use Gas	Gas used in the operation of the pipeline. For example, linepack variation and gas used to power compressors.
Total Revenue	Total Revenue has the meaning given in section 8.2 of the Code, which says it is the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period.
Trading Policy	A policy that is required to be in the Access Arrangement for a Contract Carriage Pipeline, as required by section 3.9 of the Code, regarding trading capacity and the rights of a User to trade its rights to obtain a Service to another person.
Unaccounted for Gas	The difference between received gas and delivered gas, minus System Use Gas. Commonly contains gas lost during transmission, venting gas and measurement error.
Units of Production Method of Depreciation	The depreciation amount in a given year calculated as the product of the initial cost of the asset by the ratio of the number of units of service delivered in that year to the total number of units of service expected to be delivered in the economic life of the asset.
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.

ABBREVIATIONS

AA	Access Arrangement
AAI	Access Arrangement Information
ACCC	Australian Competition and Consumer Commission
AGL	Australian Gas Light Company
APL	Australian Pipeline Limited
AWI	Australia Wide Industries
bp	Basis points – 100 bp equals 1-percentage point
CAPM	Capital Asset Pricing Model
CoAG	Council of Australian Governments
CMS	CMS Gas Transmission of Australia
CPI	Consumer Price Index
DAC	Depreciated Actual Cost
DAHC	Depreciated Adjusted Historical Cost
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DORC	Depreciated Optimised Replacement Cost
EPCM	Engineering, Procurement, Construction and Management
GGP	Goldfields Gas Pipeline
GGPAA	The *Goldfields Gas Pipeline Agreement Act 1994*
GGT	Goldfields Gas Transmission Pty Ltd
GJ	Gigajoules (10^9 joules)
GST	Goods and Services Tax
GT&C	General Terms and Conditions (Proposed Access Arrangement Appendix 3)
ICB	Initial Capital Base
IPARC	Independent Pricing and Access Regulatory Commission (ACT)
IPART	Independent Pricing And Regulatory Tribunal (New South Wales)

IRR	Internal Rate of Return
KPa	Kilopascals
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
MDQ	Maximum Daily Quantity
MFR	Maximum Flow Rate
MHQ	Maximum Hourly Quantity
MLV	Mainline Valve
Mpa	Megapascal
Na	Not available
NCC	National Competition Council
NEM	National Electricity Market
NEMCO	The operator of the NEM
Normandy	Normandy Mining Ltd
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
SECWA	State Energy Commission of WA
SQO	Supplementary Quantity Option
TJ	Terajoules (10^{12} joules)
TLPG	Tempered Liquefied Petroleum Gas

TransAlta	TransAlta Energy (Australia) Pty Ltd
WACC	Weighted Average Cost of Capital
WANG Pipeline	Western Australian Natural Gas Pipeline
WMC	Western Mining Corporation Resources

1 INTRODUCTION

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

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

1. 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;

2. 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

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

This supporting information is generally organised such that matters relevant to the 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 therefore presented according to the following general structure.

- Background information on the regulatory framework within which a proposed Access Arrangement is assessed.
- The process for assessment of a proposed Access Arrangement, and in particular the proposed Access Arrangement for the Goldfields Gas Pipeline.
- Assessment of matters addressed by the proposed Access Arrangement other than those that relate to tariffs, fees and charges (non-tariff matters).
- Assessment of Reference Tariffs proposed by GGT for the Goldfields Gas Pipeline.
- Assessment of fees and charges, other than tariffs, proposed by GGT for the Goldfields Gas Pipeline.

2 REGULATORY FRAMEWORK

2.1 STRUCTURE OF THE WESTERN AUSTRALIAN GAS INDUSTRY

This section provides some background information on the Western Australian gas industry and the Goldfields Gas Pipeline in particular.

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 resources within Australia. Natural gas accounts for 40 percent of the State's identified fossil fuel resources and will last over 100 years at the current level of production. There are five sedimentary basins in this State with two of these basins – the Northern Perth Basin and the Carnarvon Basin – currently producing natural gas for sale. There are nine processing facilities currently supplying natural gas to the domestic market (Table 1).

Table 1
Gas Sources Supplying the Domestic Market

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 1998/99 a total of around 775PJ of natural gas was produced from the two major basins, with the majority originating from the Carnarvon Basin.[1] The natural gas produced from these areas is either sold to the domestic market or exported in the form of liquefied natural gas (LNG) or liquefied petroleum gas (LPG).

Gas Pipeline Infrastructure

There are currently five covered onshore natural gas transmission pipelines in Western Australia - the Dampier to Bunbury Natural Gas Pipeline (DBNGP), the Goldfields Gas Pipeline, the Parmelia Pipeline, the Tubridgi Pipeline System and the Kambalda Lateral.

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 pipeline comprises 1,845km of main pipeline and laterals, with a current maximum delivery capacity of about 600TJ/day.

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

[1] Office of Energy, *Energy Western Australia 2000*, p20

Energy Corporation and is operated by an Australian division named CMS Gas Transmission of Australia (CMS). The pipeline is capable of delivering up to 86 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.

The Tubridgi Pipeline System comprises two adjacent pipelines, constructed in 1991 and 1993 respectively, both approximately 87 km in length and located in the same easement. The system extends from the Tubridgi Gas Plant, 25 km south of Onslow to Compressor Station Number 2 on the DBNGP. The system is owned by the Tubridgi Joint Venturers and is operated on their behalf by Origin Energy.

The Goldfields Gas Pipeline begins at Yarraloola on the DBNGP (but is not connected to the DBNGP) and transports gas through 1378km to Kalgoorlie. It is a telescopic pipeline comprised of a 400mm diameter section to the Newman off-take and a 350mm diameter section thereafter. It has a Maximum Average Operating Pressure (MAOP) of 10.2MPa and a current operating capacity of around 95TJ/day. It is currently operating at full capacity, but this can be enhanced with additional compression to around 160TJ/d.

The Goldfields Gas Pipeline was officially opened on 4 October 1996. Its construction was an initiative of the Western Australian Government, which had advertised for expressions of interest in March 1993. In mid 1993 the Government awarded the right to build the pipeline to a joint venture of Wesminco Oil Pty Ltd (Western Mining Corporation Holdings Ltd), Normandy Pipelines Pty Ltd (Normandy Poseidon Ltd) and BHP Minerals Pty Ltd. A State Agreement was signed between the Government and these joint venturers in March 1994. Until 1 January 2000 the State Agreement Act governed access to capacity in the pipeline by third parties.

In 1997, four third party users accessed capacity on the pipeline. These were:

- Plutonic Operations (at Plutonic);
- Wiluna Gold (at Wiluna);
- AWI (Australia Wide Industries) for Great Central Mines (at Jundee); and
- AlintaGas (for the distribution system in Kalgoorlie).

These were followed in 1998 by Anaconda Operations (at Murrin Murrin) and AWI for Centaur Mining (at Cawse). These third party loads, combined with the loads of the three initial joint venturers, resulted in the pipeline operating at full capacity.

The pipeline was sold to the present owners in three separate transactions between December 1998 and March 1999.

2.2 NATIONAL GAS ACCESS REGIME

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

On 7 November 1997, CoAG endorsed a national regulatory regime for natural gas pipelines in Australia, including distribution pipelines. This occurred through the signing of the

Natural Gas Pipelines Access Agreement (the Agreement), which amongst other things records each jurisdiction's commitment in relation to implementing the national regime and maintaining the integrity of the Agreement.

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

2.3 LEGISLATION

In Western Australia the *Gas Pipelines Access (WA) Act 1998* has given effect to the *National Gas Pipelines Access Law* comprising the law itself (Schedule 1 of the Act) and the National Third Party Access Code for Natural Gas Pipeline Systems (the Code), which is Schedule 2 of the Act.

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

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

The existing access regimes for the DBNGP, the Goldfields Gas Pipeline and the AlintaGas distribution systems were deemed to comply with the Code until 31 December 1999. After this date these pipeline systems became subject to the national regime and Access Arrangements in accordance with the Code are required to be put in place. The Access Arrangement for the AlintaGas Distribution System was given final approval on 18 July 2000 and a proposed Access Arrangement is currently under consideration for the DBNGP.

2.4 THE WESTERN AUSTRALIAN ACCESS REGIME

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

(a) The Act gives effect to the Gas Pipelines Access (WA) Law.

(b) Schedule 1 provides the legal framework for the operation of the Access Regime.

(c) Schedule 2 is the Code, which details the principles of the Access Regime.

(d) Schedule 3 contains consequential amendments to other related Acts.

Further details of the Western Australian Access Regime were provided in the Regulator's Decisions for the Parmelia Pipeline, the Tubridgi Pipeline System and the Mid-West and South-West Gas Distribution Systems.

2.5 LEGISLATION RELATING TO THE GOLDFIELDS GAS PIPELINE

In contrast to most other pipelines covered by the Code, the Goldfields Gas Pipeline was made subject to detailed open access regulation from the time of its construction and prior to it becoming a "covered" pipeline. An understanding of the relevant legislation is important to the assessment of the proposed Access Arrangement as discussed in subsequent sections of this Draft Decision.

The third party access regime for the Goldfields Gas Pipeline was included as part of the *Goldfields Gas Pipeline Agreement Act 1994*, which was signed in March 1994 between the State Government and the Joint Venturers, Wesminco Oil Pty Ltd (on behalf of WMC), Normandy Pipelines Pty Ltd and BHP Minerals Pty Ltd, who built the pipeline. The rights granted to the original owners by the State Agreement Act have been assigned to the current owners who purchased the pipeline in the period December 1998 to March 1999.

The original owners of the pipeline were also Users of the pipeline. The current owners, to whom the rights of the State Agreement Act have been assigned, provide pipeline services to third parties. The provisions of subclauses 20(2), 21(2) and 21(3) of the State Agreement Act are relevant to the new owners, existing Users and Prospective Users of the pipeline.

Subclause 20(2) of the *Goldfields Gas Pipeline Agreement Act 1994* provides that:

> (2) The terms and conditions of Third Party access to the Pipeline (including access by any Initial Customer to capacity which is in excess of that Initial Customer's portion of the Initial Committed Capacity) shall be subject to and in accordance with by-laws from time to time made, altered or repealed as provided in subclause (1) of Clause 21 or other applicable laws or subsidiary legislation referred to in subclause (2) of Clause 21 and, subject thereto or, if no such by-laws, laws or subsidiary legislation are made or in force, then upon non-discriminatory fair and reasonable terms and conditions and, in relation to tariffs, subject to Clause 22.

Subclause 21(2) of the *Goldfields Gas Pipeline Agreement Act 1994* provides that:

> (2) In the event of uniform laws or subsidiary legislation being promulgated for petroleum and gas pipeline operation in Western Australia then, subject to subclause (3), any by-laws made under subclause (1) shall cease and determine on the expiry of two years after the coming into operation of the uniform laws or subsidiary legislation.

The *Gas Pipelines Access (WA) Act 1998*, incorporating the *Gas Pipelines Access (Western Australia) Law*, constitutes "uniform laws" within the meaning of section 21(2) of the *Goldfields Gas Pipeline Agreement Act 1994*. As there are no by-laws made under subclause 21(1) there is no two year transition from such by-laws.

However, section 97(1) of the *Gas Pipelines Access (WA) Act 1998* made provision for the temporary continuation of the access arrangements under the State Agreement Act until 1 January 2000.

> (1) The existing access arrangements for the gas transmission pipeline that is the subject of the ratified Agreement are taken to be an approved Access Arrangement under the Code until 1 January 2000.

In addition, section 97(4) of the *Gas Pipelines Access (WA) Act 1998*, reproduced below, provides for the continuing application of subclause 21(3) of the State Agreement Act.

> (4) The references in subclause (3) of clause 21 of the ratified Agreement as in force immediately before the commencement of section 9 of this Act to "uniform laws or subsidiary legislation" and to

> "uniform laws and subsidiary legislation" include the provisions of the Gas Pipelines Access (Western Australia) Law, and nothing in that Law or in this section is to be taken to affect the operation of that subclause.

Subclause 21(3) of the *Goldfields Gas Pipeline Agreement Act 1994* provides that:

> (3) The uniform laws and subsidiary legislation referred to in subclause (2) shall not have effect to the extent that the Joint Venturers can demonstrate that the uniform laws or subsidiary legislation there referred to have or are likely to have a material adverse effect on the legitimate business interests of the Joint Venturers but in any event, insofar as any such uniform laws or subsidiary legislation may purport to apply to the Initial Committed Capacity, such of those uniform laws or that subsidiary legislation shall only so apply to the extent that the Initial Committed Capacity is, from time to time, non-utilised.

Initial Committed Capacity referred to in subclause 21(3) of the State Agreement Act is defined in subclause 8(3)(b) of the Agreement Act as the capacity taken by the Initial Customers. Initial Customers are defined in subclause 8(3)(a) as the parties that commit to capacity in accordance with subclause 8(1) or 8(2) of the State Agreement Act and includes the original owners and third party users who responded to the initial invitation to apply for access. As there were no third party users that committed to capacity in response to the initial invitation, the Initial Customers on the pipeline by definition are therefore the original owners. Advice from the Department of Resources Development indicates that for the purposes of the State Agreement Act, the Initial Committed Capacity is 98TJ/d.

Although subclause 20(2) of the *Goldfields Gas Pipeline Agreement Act 1994* foreshadows the introduction of other applicable laws or subsidiary legislation to replace its third party access provisions, clause 21(3) makes provision for continuance of the provisions relating to the legitimate business interests of Joint Venturers.

In addition, section 97(4) of the *Gas Pipelines Access (WA) Act 1998* provides that the Code will not have effect where it can be demonstrated that the Code has a "material adverse effect on the legitimate business interests of the joint venturers".

The definition of the term "legitimate business interests" is defined in the State Agreement Act as follows:

> **"legitimate business interests of the Joint Venturers"** means the legitimate business interests of the Joint Venturers' as owners and operators of the Pipeline on the basis that they constitute an independent pipeline owner offering transmission services without any bundling of those services with other services such as the purchase, sale, storage or supply of gas (beyond short term balancing between receipts and deliveries)

It is noted that the ACCC has commented on the term "legitimate business interests of the provider" as follows:

> The ACCC analysis of the legitimate business interests of the provider will focus on commercial considerations and will take into account the ongoing viability of services covered by the undertaking and commercial returns and investment in the facility, the costs of extensions to the facility incurred by the service provider, existing contracts, the protection of plant and equipment, community service obligations and other obligations imposed by Government"[2].

[2] "Access Undertakings – an Overview of Part IIIA of the Trade Practices Act and the Draft Access Undertaking Guide" ACCC, AGPS December 1996, pp2-4.

It should be noted that in approving a proposed Access Arrangement, section 2.24 of the Code requires the Regulator to take into account the legitimate business interests of the Service Provider:

> 2.24 The Relevant Regulator may approve a proposed Access Arrangement only if it is satisfied the proposed Access Arrangement contains the elements and satisfies the principles set out in sections 3.1 to 3.20. The Relevant Regulator must 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. In assessing a proposed Access Arrangement, the Relevant Regulator must take the following into account:
>
> (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;
>
> (g) any other matters that the Relevant Regulator considers are relevant.

3 ASSESSMENT PROCESS

3.1 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. A proposed 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 broad discretion to refuse to accept an Access Arrangement.

A proposed Access Arrangement submitted to the Regulator for approval must be accompanied by an Access Arrangement Information. An 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 by which a proposed 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 and issues a Draft Decision which either:
  - proposes to approve the proposed Access Arrangement; or
  - proposes not to approve the proposed Access Arrangement and states the amendments (or nature of amendments) that would have to be made to the proposed Access Arrangement in order for the Regulator to approve it.
- The Service Provider may, after the date of the Draft Decision, resubmit a revised Access Arrangement, so as to incorporate or substantially incorporate the amendments specified by the Regulator in the Draft Decision or otherwise address the matters the Regulator identified in the Draft Decision as being the reasons for requiring the amendments.
- After considering any submissions received on the Draft Decision, and any revised Access Arrangement submitted by the Service Provider, the Regulator issues a Final Decision which either:
  - approves the proposed (or revised) Access Arrangement; or
  - does not approve the proposed (or revised) Access Arrangement and states the amendments (or nature of the amendments) to the proposed (or revised) Access Arrangement that would be required before the Regulator would approve it.
- If the Regulator does not approve the proposed Access Arrangement, the Service Provider may propose an amended Access Arrangement, which incorporates the revisions required by the Regulator.
- If the Regulator does not approve the proposed Access Arrangement and the Service Provider does not propose an amended Access Arrangement that meets the requirements of the Regulator as set out in the Final Decision, the Regulator can impose his own Access Arrangement.

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

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

3.2 SUBMISSION OF THE ACCESS ARRANGEMENT AND SUPPORTING INFORMATION

Documentation submitted to the Regulator by GGT on 15 December 1999 was as follows.

- The Goldfields Gas Pipeline proposed Access Arrangement.
- The Goldfields Gas Pipeline Access Arrangement Information.
- The Goldfields Gas Pipeline Maps.

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).

3.3 FIRST–ROUND PUBLIC CONSULTATION

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

- Forwarding of notices to interested parties (17 December 1999).
- Placing of the notice calling for submissions on the O*ff*GAR web site (17 December 1999).
- Placing of advertisements calling for public submissions in *The West Australian* and the *Weekend Australian* (22 December 1999).

An issues paper was made available by O*ff*GAR and forwarded to interested parties on the 12 January 2000. The issues paper was also available from O*ff*GAR and the O*ff*GAR web site. A closing date for receipt of public submissions was set at the 4 February 2000. An extension of time was granted for public submissions to the 3 March 2000.

Submissions were received from the following parties;

- AlintaGas Trading Division
- Anaconda Nickel Ltd
- Apache Energy Ltd (received after the closing date)
- Wesfarmers CSBP Ltd
- Normandy Mining Ltd
- North West Shelf Gas
- Placer (Granny Smith) Pty Ltd
- The Chamber of Minerals and Energy
- The Hon Mark Nevill MLC
- Treasury, Office of Energy and Department of Resources Development (joint submission)
- Western Power
- WMC Resources

Issues raised in submissions are reproduced and addressed by the Regulator in sections 3 to 6 of this Draft Decision. Copies of submissions are available on the O*ff*GAR web site.

3.4 DRAFT DECISION

This document comprises the Regulator's Draft Decision in respect of the proposed Access Arrangement submitted by GGT. The Draft Decision is a result of an assessment by the Regulator of compliance of the proposed Access Arrangement for the Goldfields Gas Pipeline with the requirements of the Code. The Draft Decision states the amendments (or

the nature of amendments) that will need to be made to the proposed Access Arrangement before the Regulator will approve it.

The objectives of a Draft Decision are to provide an opportunity for:

- the Service Provider and other interested parties to comment on the Regulator's assessment of the proposed Access Arrangement; and
- 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 proposed Access Arrangement.

3.5 SECOND–ROUND PUBLIC CONSULTATION

Public submissions are invited on the Draft Decision. In accordance with the requirements of section 2.14 of the Code, a copy of this document has been provided to all persons that made a submission as part of the first round of public consultation. Copies of the document are available in hard–copy form from 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 by close of business WST Thursday 31 May 2001.

3.6 FINAL DECISION

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

(a) approves the proposed Access Arrangement or any revised Access Arrangement submitted by GGT which addresses the amendments required by the Regulator as described in the Draft Decision; or

(b) does not approve the proposed Access Arrangement (or revised Access Arrangement) and states the amendments (or nature of the amendments) that are needed to the proposed Access Arrangement in order for the Regulator to approve it and the date by which a revised Access Arrangement must be resubmitted by the Service Provider.

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 proposed Access Arrangement or Draft Decision, and copies will be made publicly available both in hard–copy form and via O*ff*GAR's web site.

3.7 ADDITIONAL AMENDMENTS TO THE ACCESS ARRANGEMENT

If, subsequent to a Final Decision that does not approve the proposed Access Arrangement, the Service Provider submits a revised Access Arrangement by the date specified by the Regulator under section 2.16(b) of the Code and which the Regulator is satisfied incorporates the amendments specified by the Final Decision, the Regulator is required to approve the revised Access Arrangement.

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

4 NON-TARIFF MATTERS

4.1 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 (sections 3.1 and 3.2)

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

  – include a description of one or more Services which are to be offered;

  – where reasonable and practical, allow Prospective Users to obtain a Service that includes only those elements that the User wishes to be included in the Service; and

  – where reasonable and practical, allow Prospective Users to obtain a separate tariff in regard to a separate element of a Service.

- Reference Tariff (sections 3.3 to 3.5)

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

- Terms and Conditions (section 3.6)

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

- Capacity Management Policy (sections 3.7 and 3.8)

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

- Trading Policy (sections 3.9 to 3.11)

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

- Queuing Policy (sections 3.12 to 3.15)

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

- Extensions/Expansions Policy (section 3.16)

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

- Review Date (sections 3.17 to 3.20)

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

This section 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 5 of this Draft Decision.

4.2 SERVICES POLICY

4.2.1 Access Code Requirements

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

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

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

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

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

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

4.2.2 Access Arrangement Proposal

The Services Policy is provided in clause 4 of the Access Arrangement. The only Reference Service offered is a firm service. This is on the basis that the only service sought by current users has been a firm service and GGT believes it is unlikely that this requirement will alter in the future.

Subject to sufficient Spare Capacity, GGT will make a firm service available to customers for the receipt of gas at the single Inlet Point, transmission through the pipeline and delivery to agreed Outlet Point(s). Gas quantities able to be received and delivered under a Service Agreement for a firm service are defined as upper limits in terms of Maximum Daily Quantity (MDQ) and Maximum Hourly Quantity (MHQ). Under clause 6.11 of the Access Arrangement, any variation to the terms and conditions will be treated as a negotiated service. Further details relating to the Reference Service are provided in clause 4 of the General Terms and Conditions.

GGT also offers negotiated services, for Users who desire a service other than the firm service. These are to be developed through a negotiation process to meet specific needs.

GGT has given an undertaking in clause 6.11 of the proposed Access Arrangement to negotiate in good faith.

Clause 4.2(a) of the proposed Access Arrangement states that no provision of the Access Arrangement necessarily limits or circumscribes the terms or conditions which may be negotiated for negotiated services.

The transportation tariff for the Reference Service is stated in clause 9.2 of the General Terms and Conditions (GT&C) to consist of three components:

(a) Toll Tariff;

(b) Capacity Reservation Tariff; and

(c) Throughput Tariff.

The firm service is offered on the basis of four contract periods with lower tariff rates for longer term contracts. The four contract terms are as follows:

(1) 1 to 5 years;

(2) 6 to 10 years;

(3) 11 to 15 years; and

(4) 16 to 20 years.

These contract periods together with the tariff rates are set out in the Sixth Schedule of the GT&C.

4.2.3 Submissions from Interested Parties

Inclusion of Additional Services in the Services Policy

- Normandy

  GGT is offering only a forward Firm Service as the proposed Reference Service, and is also offering to negotiate Non-Reference Services. However, since the start of the GGT pipeline, other services (Interruptible Service, Parking Service and Authorised Imbalance Service) have been offered. GGT advances no reasons for these to be discontinued and Normandy believe that they should continue to be offered.

- Chamber of Minerals and Energy

  It is understood that there may be some demand from some users for other services such as an interruptible service, and it needs to be considered whether the proposed reference service provides an adequate basis for the negotiation in these circumstances.

- Apache Energy

  Offgar should consider the basis for and terms of Parking and Interruptible Services.

- WMC Resources

  GGT is offering only a forward Firm Service as the proposed Reference Service, and offering to negotiate Non-Reference Services. However, since the start of the GGT pipeline, other services of the nature of Reference Services (Interruptible Service, Parking Service and Authorised Imbalance

Service), have been offered. GGT advances no reasons for deleting these services and WMC believes that they should continue to be offered.

The Regulator has discretion under section 3.2(a) of the Code to require an Access Arrangement to describe a particular service in the Services Policy. Under section 3.3(b) of the Code, the Regulator may also require a Reference Tariff to be included in an Access Arrangement for any service that is likely to be sought by a significant part of the market and for which the Regulator considers a Reference Tariff should be included, in which case the service constitutes a Reference Service. It is noted, however, that while section 3.2(a)(ii) of the Code states that an Access Arrangement must include a description of any Service or Services which, in the Regulator's opinion, should be included in the Services Policy, there is no implication that a service included in the Services Policy must be a Reference Service, that is, one that must have a Reference Tariff associated with it.

The Regulator has given consideration to whether a back-haul service, an interruptible service, a parking service and an authorised imbalance service should be included in the Access Arrangement as a Reference Service.

Currently, it is unlikely that a back-haul service would be sought by a significant part of the market, particularly since the Carnarvon Basin is the sole source of gas supply to the Goldfields Gas Pipeline. The Regulator does not therefore consider it appropriate to require the Access Arrangement to be amended to include a back-haul service as a Reference Service.

Although an interruptible service is likely to be sought by a significant part of the market, there are a number of reasons why such a service may be better offered as a Non-Reference Service. It is recognised that some pipeline service providers have chosen to offer interruptible services as Reference Services, but there is no clear approach on this within the gas pipeline industry. In order for interruptible services to be as efficient as is reasonably possible, a greater degree of tariff flexibility may be required, which is better achieved if the service is offered on a negotiated basis. Some interruptible services, such as a spot service, may involve the marketing of capacity on a bidding basis. In this case the specification of a Reference Tariff would be inconsistent with the market approach being proposed.

Although the Regulator considers the availability of an interruptible service to be essential for the Goldfields Gas Pipeline, the Regulator does not consider that there is a specific need for the proposed Access Arrangement to be amended to include such a service as a Reference Service. The Regulator does, however, propose that the availability of negotiated interruptible services on the Goldfields Gas Pipeline should be reconsidered in reviewing the Access Arrangement taking into consideration the number of requests for such services during the Access Arrangement Period and the number of Service Agreements successfully negotiated. In addition, the Regulator considers that the Services Policy should make specific provision for an interruptible service to be available as a Non-Reference Service.

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

Amendment 1

The proposed Services Policy should be amended to include the provision of an interruptible service to be made available to Users and Prospective Users.

The Regulator is aware that parking and authorised imbalance services are not generally offered as Reference Services by other pipeline service providers, but rather are in the nature of ancillary services associated with a Reference Service. Under the proposed Access Arrangement, an authorised imbalance service is, in effect, offered in the form of a Supplementary Quantity Option (SQO). The Regulator does not therefore consider it necessary to require that the Access Arrangement be amended to include these services as Reference Services, or to require that the Services Policy make specific provision for the supply of these services.

Services such as a back-haul service, a parking service and an authorised imbalance service should be available as Non-Reference Services if required by Prospective Users. In this regard, GGT has stated in its proposed Access Arrangement that it will negotiate Non-Reference Services in good faith. A failure to abide by this commitment provides a Prospective User the opportunity to notify a dispute under section 6 of the Code and seek a resolution to the dispute by the Gas Disputes Arbitrator.

Inlet Point

- North West Shelf Gas

  We would request that the Regulator ensure that provision is made in the Access Arrangement for an alternative Inlet Point(s) from a possible future connection to the GGP from the Dampier to Bunbury Natural Gas Pipeline. Such a new inlet point would allow physical access to the GGP (and therefore Eastern Pilbara and Goldfields customers) by the four other gas producers in the north west (including the North West Shelf Joint Venture as well as backhaul from producers further south). Equitable access to the GGP and these customers by all gas producers is required to allow circumstances in which true competition between gas producers might occur.

As discussed under section 4.2.1 above, the Services Policy of an Access Arrangement is required to include services that are typically sought by a significant part of the market or which the Regulator otherwise considers should be included in the Services Policy taking into account the matters set out in section 2.24 of the Code. Generally, the services that the Regulator would see as appropriate to include in the Services Policy are those that are likely to be sought on an ongoing basis, such as haulage services. The Regulator would generally not consider it appropriate to require services such as physical interconnection between two pipelines to be addressed by a Services Policy, instead allowing it to be a matter for commercial negotiation between the relevant parties, with a fallback to the arbitration provisions of the Code.

Notwithstanding this, clause 6 of the GT&C details the terms and conditions that are to apply in respect of connections to the pipeline, the Inlet Point and Outlet Points.

Currently, the Goldfields Gas Pipeline is configured with only one Inlet Point. Until such time as one or more new Inlet Points are added to the pipeline, the Reference Service being offered will require gas to be delivered into the pipeline via the existing Inlet Point.

However, the proposed Access Arrangement, in its current form, envisages that Prospective Users can only deliver gas to the pipeline via the existing Inlet Point. The proposed Access Arrangement does not make provision for gas to be delivered into the pipeline via another Inlet Point should such a point be constructed during the Access Arrangement Period. The

Regulator considers that the Access Arrangement should not preclude access to the pipeline under the terms and conditions of the Reference Service via other Inlet Points if and when such Inlet Points are established.

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

Amendment 2

The proposed Access Arrangement should be amended to make provision for the Reference Service to be capable of accommodating alternative and multiple Inlet Points in a single Service Agreement in the event that additional Inlet Points are established on the pipeline.

4.2.4 Additional Considerations of the Regulator

Two concerns of the Regulator in respect of the proposed Services Policy are that GGT propose to offer only one Reference Service, the firm service, and that the tariff rates for this service decline in a series of four steps in line with increases in the contract term of a Service Agreement entered into by a User.

The issue concerning whether there should be more than one Reference Service was raised in submissions on the Access Arrangement and has been addressed above.

The issue of lower tariff rates as the term of the contract period increases concerns the structure of tariffs and is addressed on page 169 of this Draft Decision below.

In addition to the above, clause 8.1(b) and 8.2(b) of the Access Arrangement suggests that GGT may attach conditions to a Service Agreement for provision of a Reference Service in addition to those terms and conditions set out in the Access Arrangement including those in Appendix 3, which are the applicable General Terms and Conditions.

The discretionary power provided by clause 8.1(b) and 8.2(b) of the proposed Access Arrangement for GGT to apply additional conditions is 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 the Service Provider.

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

Amendment 3

Clause 8 of the proposed Access Arrangement should be amended to remove the discretionary power of GGT to attach conditions to Service Agreements for provision of Reference Services where such conditions are additional to those stated in the Access Arrangement, including Appendix 3 being the General Terms and Conditions.

4.3 GENERAL TERMS AND CONDITIONS

4.3.1 Access Code Requirements

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

4.3.2 Access Arrangement Proposal

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

The GT&C proposed in the Access Arrangement are substantially the same as those currently operating under provisions of the *Goldfields Gas Pipeline Agreement Act 1994* relating to third party access.

4.3.3 Submissions from Interested Parties

Supplementary Quantity Option (GT&C Clause 4)

- Treasury, Office of Energy and Department of Resources Development

  The Regulator should consider whether, subject to technical and operational circumstances, it is appropriate for GGT to provide a SQO, which is effectively offered as part of the Firm Service, solely at its discretion.

- Apache Energy

  The Regulator should address the terms for procuring short-term pipeline capacity through the (interruptible) Supplementary Quantity Option.

Clause 4 of the GT&C describes the Reference Service and an associated service: the Supplementary Quantity Option (SQO). The SQO is a service of additional gas offered solely to existing Users in order that they may correct imbalances or transport gas in excess of their MDQ on an occasional basis.

The intention of offering the SQO (which may be similar to an authorised overrun service) is to take advantage of a short term ability in the system to support such a service. This service, by its nature, is totally interruptible and can only be offered in certain circumstances that will not compromise deliveries to other Users. If Users do not use their total contracted capacities resulting in linepack build-up, the operator is in the position to allow Users to draw additional gas quantities without affecting the system's integrity.

The SQO is a service associated with the firm service and cannot be offered as a stand-alone service as it is associated with the system transient conditions created by the linepack dynamics, gas receipts and gas deliveries.

By contrast, interruptible capacity is usually associated with seasonal conditions, spare compressor power and to some extent with the Users' unutilised capacity. GGT envisages offering Non-Reference Services, which include interruptible services, on a negotiated basis and has given an undertaking to negotiate such services in good faith.

In view of the very specific nature of the SQO, there is no requirement for an amendment to the Access Arrangement.

Connection, Inlet and Outlet Points (GT&C Clause 6)

✎ Treasury, Office of Energy and Department of Resources Development

> Clause 6.6 gives GGT exclusive control over Outlet Facilities owned by the User (except any outlet facilities owned and maintained by a third party as accepted by GGT). Given that this implies that a third party can operate and control outlet facilities, it is not clear why a User would not be able to operate its own outlet facilities subject to the requirements contained in Clause 6.4(b).

Clause 6.6(a) of the GT&C requires a User to procure for GGT an exclusive right to operate and control the Outlet Facilities, except where these are owned and maintained by a third party in accordance with clause 6.4(b) of the GT&C.

Where outlet facilities are owned and maintained by a third party, the provisions of clause 6.4(b) apply:

- the User provides GGT access to the Outlet Point for the purposes of the Service Agreement;
- the User provides connections for SCADA and communications equipment acceptable to GGT to enable it to monitor the functioning and operation of the Outlet Facilities;
- the User ensures that the third party maintains adequate insurance to an amount approved by GGT; and
- the User pays relevant connection charges.

The Regulator considers it unreasonable that a User should not similarly be permitted to own, maintain and operate an Outlet Point in the same manner as a third party.

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

Amendment 4

Clause 6.6 of the GT&C should be amended to allow Users, as well as third parties, to operate and maintain their own Outlet Points.

Measurement of Gas (GT&C Clause 11)

✎ Treasury, Office of Energy and Department of Resources Development

> It is not clear whether a User would bear the entire costs to the Owner of installing, operating and maintaining measurement facilities that are shared with other Users. There needs to be a fair

mechanism for determining the proportion of the Owner's total costs that a User should pay in respect of a facility it shares with other Users.

This comment relates to clause 11.4 of the GT&C, which refers to the cost of installation, operation and maintenance of facilities not owned by the Service Provider. As such, it refers to inlet and outlet measuring facilities owned by Users or third parties. The Access Arrangement is the basis for Service Agreements between GGT and each User. The proportionate costs to be shared between Users (or between third party owners and Users) with respect to inlet and outlet facilities would be part of a separate agreement between these Users and third party owners.

The Regulator does not consider it appropriate for an Access Arrangement to prescribe the terms of agreement between two or more Users, or between a User and a third party owner of a facility, because GGT is not itself a party to that agreement. No change to the proposed Access Arrangement is therefore required in this case.

Representations and Warranties of the User (GT&C Clause 12)

- AlintaGas

  GGT's proposed terms and conditions require the User to represent and warrant that the User's gas consuming equipment supplied at the outlet facilities complies with all relevant laws. AlintaGas submits that this representation and warranty is inappropriate as it places GGT in the role of a regulatory safety body.

Clause 12.1(l) requires the User to warrant that all gas consuming equipment supplied at the Outlet Point complies with the relevant laws. GGT operates the Goldfields Gas Pipeline on behalf of the pipeline owners and is responsible to the pipeline owners for ensuring that all parts of the pipeline are operated according to technical specifications and licence conditions. The Regulator therefore does not consider it unreasonable for the Service Provider to expect Users (and third parties) to adhere to such laws and licence conditions and require this as part of a Service Agreement. No amendment to the Access Arrangement is therefore required in this regard.

- AlintaGas

  The user is also required to represent and warrant that neither the user nor any of its related bodies corporate has implied or expressly represented to any person, including by silence or action, that a continuous supply of gas is guaranteed and can be relied upon. In AlintaGas's case, this is unworkable, given AlintaGas's obligations under the draft licences for the Kalgoorlie Boulder supply area under the *Energy Co-ordination Act*.

In clause 12.1(m) of the GT&C, GGT requires the User to warrant that the User will not guarantee the continuous supply of gas to any person. The Regulator accepts that GGT wishes, and is entitled, to reduce its risk of a User making representations to third parties which may result in liability being attributed back to GGT.

However, the Regulator considers that requiring a User to warrant that the User will not guarantee supply of gas to any person is not reasonable to the extent that GGT is imposing a restriction on Users in the conduct of the User's business with other parties. A more reasonable approach would be for GGT to limit its liability without imposing requirements on any arrangements that a User may make with its customers.

The Regulator therefore requires that GGT amend the GT&C to remove the requirement that a User warrant to GGT that the User will not guarantee the supply of gas to any person. The Regulator recognises, however, that GGT may also wish to consider amending the proposed Access Arrangement to limit its liability where a User guarantees a continuous supply of gas to another person.

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

Amendment 5

Clause 12.1(m) of the GT&C should be amended so as to not prevent a User from guaranteeing a continuous supply of gas to another person.

Liabilities (GT&C Clause 18)

- Treasury, Office of Energy and Department of Resources Development

  GGT's liability clause seeks to exclude liability for "indirect losses" defined very broadly to include not only loss of profit but also loss of revenue or income. The Regulator needs to consider whether breach of contract or negligence should lead at least to liability for gas lost.

Clause 18.2 of the GT&C states that, where a party is found liable for a breach of the Service Agreement, the liability will be limited to direct losses only and not for any indirect losses as summarised in clause 18.2(a)(1) nor any claims, demands or actions by any third parties.

Other Access Arrangements that have been reviewed limit the liability of the Service Provider to direct losses only and most include within these limits, liability for negligence or breach of contract (see Table 2). Only in cases of gross negligence or wilful misconduct is liability for other than direct losses countenanced by other Access Arrangements, and then only in the case of a limited number of pipelines.

Table 2
Limitations on Liability

Pipeline Name	Limitations on Liability	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Principal Transmission System	Liability is limited to actual damages only, except in cases where damages occur due to non-specification gas being delivered through wilful default or negligence on the part of the service provider.	Final Approval: Accepted.
AGL Gas Networks	Liability is limited to actual damages except for: (a) delivery of non-specification gas to	Final Decision: Accepted.

Pipeline Name	Limitations on Liability	
	Access Arrangement Proposal	**Draft/Final Decision**
	a Receipt Point; (b) delivery of non-specification gas to a delivery point due to the negligence or wilful default of the service provider; (c) failure by the user to cease delivery or taking of gas as required under the service agreement; or (d) withdrawal at a delivery point of a quantity greater than MHQ in any hour or a quantity greater than MDQ on any day except as an authorised overrun.	
Central West Pipeline	As for AGL Gas Network.	Final Approval: Accepted.
Moomba to Adelaide Pipeline System	Liability is limited to direct losses only for a breach of an obligation under the service agreement on any legal basis.	Draft Decision: Approved, with a change in the cap (see Table 5)
Moomba to Sydney Pipeline	Liability is limited to direct losses only, even in cases of negligence.	Draft Decision: Accepted.
Parmelia Pipeline	Liability is limited to direct losses only. This includes cases where losses are caused by wrongful acts, omissions or negligence by the Service Provider. Only in circumstances where wilful misconduct by the Service Provider causes damage to the pipeline are indirect losses possible. Even in this case, liability is limited to the value of the Service Provider's insurance ($5 million).	Final Approval: Access Arrangement amended to remove discretion in the amount of public liability insurance users are required to hold, but other liability limitation mechanisms were accepted.
Amadeus Basin to Darwin Pipeline	Liability is limited to actual damages only, except in cases where damages occur due to non-specification gas being delivered through wilful default or negligence on the part of the Service Provider.	Regulator's decision pending.

Pipeline Name	Limitations on Liability	
	Access Arrangement Proposal	**Draft/Final Decision**
Tubridgi Pipeline System	Liability is limited to claims made within one month of the User becoming aware of them and capped to one month of User charges. The Service Providers will not be liable for any loss, cost, liability expense or damage suffered by the user in the event of negligence on the part of the Service Provider. However, in cases of gross negligence, they will be liable, with liability capped as outlined above.	Draft Decision: The time limitation and extent of liability have been approved, but the Regulator has required that the time limit be applied equally to all parties.
Dampier to Bunbury Natural Gas Pipeline	Liability is limited to direct losses only, except in cases of wilful disregard of a party's obligations under the Service Agreement or fraud.	Regulator's decision pending.

As indicated in the table, general industry practice is to limit liability to direct losses, even for negligence. A number of Access Arrangements allow for greater liability in the case of gross negligence, wilful misconduct or fraud. In all cases where a Regulator has made a decision, the liability limitations summarised in the table have been accepted.

It should be noted that, in the majority of cases, as in the Goldfields Gas Pipeline Access Arrangement, liability provisions are symmetrical. That is, both the User and the Service Provider are limited to direct losses and protected by the liability clauses.

On the basis of legal advice and since the limitation on liability applies to both parties the Regulator considers it reasonable that the Service Provider may seek to limit liability to direct losses as proposed in the Access Arrangement.

No amendment to the proposed Access Arrangement is therefore required.

Proximate Losses (GT&C Clause 18.3)

- Treasury, Office of Energy and Department of Resources Development

  The Regulator needs to consider whether the clause might make the User liable for damage for events not reasonably within its control.

Clause 18.3 of the GT&C indicates that Users alone will be responsible and liable for payment of moneys by way of compensation in consequence of the occurrence of any injury, death or loss to any person employed by the User or any person contracting or dealing with the User; any loss of or damage to any property of the User or any person contracting or

dealing with the User; any other loss incurred by the User or any person contracting or dealing with or relying upon the provisions of goods or services by the User. The Regulator considers that the shifting of liability to the User under such an arrangement may be found to be reasonable on the basis of commercial considerations.

The clause also requires the User to indemnify the Owners or GGT or any person contracting with the Owners or GGT and their respective employees, agents and servants from and against all liabilities and expenses in connection with any claim, demand, action or proceeding brought by any person in respect of or in relation to any such injury, death, loss or damage, if that injury, death, loss or damage occurs in a proximate location as defined in clause 18.4. This would be the case even though there is no fault on the part of the User.

The Regulator considers that a requirement for the User to indemnify GGT and related parties against events that are not the fault of the User is unreasonable and cannot be justified to any extent on commercial grounds.

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

Amendment 6

Clause 18.3 of the GT&C should be amended so that the clause does not require a User to indemnify the owners or GGT or its related parties for events that are not the fault of the User which occur in a proximate area.

Reduction of Average Fixed Charges (GT&C Clause 18.5)

- Treasury, Office of Energy and Department of Resources Development

  It is not clear why the reduction in charges only commences after 48 hours of failure to provide the service. The Regulator should also be satisfied that the charges to be reduced include all those applicable charges that the User is paying for services that GGT is failing to provide.

Under Additional Considerations of the Regulator, Amendment 9 requires the Access Arrangement to be amended to include an index of reliability. The effect of this amendment is to address the issue raised by Treasury, Office of Energy and the Department of Resources Development in relation to the issue of charges being reduced after 48 hours. As a result no further amendment to the Access Arrangement is necessary.

Reliability of Supply and Other Issues

- WMC Resources

  WMC notes that, in the case of the OffGAR Draft Decision on the Parmelia Pipeline, OffGAR examined the Terms and Conditions in great detail to eliminate the scope for arbitrary decisions by the proponent and ensure that the details were acceptable. WMC believes that the same process needs to be followed in this case as well.

  We suggest in particular that there is scope for:

- …
- specifying the reliability levels associated with "Firm Service";
- …
- eliminating any obligation to make payment for amounts on invoices which appear to a shipper to be in error.

The issues raised by WMC have been addressed by Amendment 9, Amendment 10 and Amendment 13 below.

Amendment 9 requires that the GT&C should be amended to include an index of reliability to guarantee supply with a corresponding reduction in fees if the level of reliability is not met.

Amendment 10 requires that the GT&C should be amended so that fixed charges of the Reference Tariff are waived to the extent that the provision of the service is reduced where the Reference Service is interrupted or reduced by a failure of the GGT to carry out any of its obligations under a Service Agreement for reasons of force majeure or emergency.

Amendment 13 requires that the GT&C should be amended to allow for the non-payment of disputed invoices, or the non-payment of the disputed portion of an invoice, in instances of a manifest error in the invoice.

4.3.4 Additional Considerations of the Regulator

Term of Agreement (GT&C Clause 3)

Clause 3 of the GT&C describes the term and related aspects of a Service Agreement between GGT and a Prospective User for the provision of a Reference Service.

Clause 3.2 refers to the situation where, as part of a Service Agreement, it may be necessary for GGT (or the Prospective User) to provide additions or enhancements to the Goldfields Gas Pipeline to cater for additional demand generated by the Service Agreement. Clause 3.2(d) states that if any additions or enhancements to the pipeline, which are required to provide the service, are not operational following the expiry of 12 months from the commencement date and the two parties cannot agree within 30 days of the expiry of the 12 month period, either to defer the commencement date or to reduce the scope of service, either party may terminate the contract.

While the Regulator is in concurrence with the general direction of this clause, which allows for terminating a Service Agreement if the delivery of the agreed service does not eventuate, this clause allows for the unilateral termination of the Service Agreement by either party and in particular by the Service Provider even through no fault of the User. The Regulator considers that mutual consent is a more reasonable basis for the termination of a Service Agreement. If a negotiated basis of termination is not tenable the dispute resolution process outlined in clause 22 of the GT&C of the Access Arrangement should be implemented.

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

Amendment 7

Clause 3.2(d) of the GT&C should be amended to the effect that if the parties to the Service Agreement are not able to agree on deferring the commencement date or reduction in the scope of the service, they may either terminate the Service Agreement by mutual consent or refer the matter for dispute resolution as provided for in clause 22 of the GT&C.

Interruption of Service (GT&C Clause 8)

Clause 8.2 of the GT&C allows GGT to reserve the right to curtail the provision of gas transportation services for maintenance purposes. However, it does not specify a notice period to be provided to the affected Users. Clause 8.3(b) states that GGT will use "all reasonable endeavours to inform Users", but does not indicate a time period for notice to be given.

The Regulator considers that for planned maintenance, it is both reasonable and technically feasible for GGT to consult with Users and give at least 30 days notice in such situations. Such knowledge will enable Users to plan more effectively and implement response plans reasonably in advance of any planned interruption.

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

Amendment 8

Clause 8.2 (or 8.3(b)) of the GT&C should be amended to specify that GGT will consult Users and give them at least 30 days notice where planned maintenance is likely to interrupt their services.

Reliability Standards for Interruption of Service (GT&C Clauses 8, 10 and 18)

Clause 8, clause 10.6 and clause 18.5 of the GT&C all relate to interruption of service. Clause 8 outlines the right of GGT to interrupt service for maintenance or due to emergency without penalty. Clause 10.6 states that GGT makes no warranty as to the reliability of supply of gas. Clause 18.5 states that average fixed charges may be rebated if a User does not receive gas, through the fault of GGT, for a period of greater than 24 hours.

A critical element of interruption of service is the provision for an overall guarantee of supply, and corresponding reduction in fixed charges if this guarantee is not met. A guarantee of supply has been proposed in Access Arrangements for other Covered Pipelines.[3] An overall reliability factor that specifies the maximum duration in a year for interruptions to gas deliveries is one approach that may be used. An alternative is a reliability factor that limits the aggregate amount of gas that may be interrupted in a year. Without such a

[3] Proposed Contract Terms and Conditions, Access Arrangement, DBNGP, "Permissible Limit" p6 and the Final Approval for the Parmelia Pipeline p8.

reliability factor there is little incentive for GGT to minimise interruptions and Users would be left carrying a significant risk.

The reliability standards would not, however, be expected to apply in cases of emergency or force majeure where such events are beyond the reasonable control of GGT.[4]

The Regulator therefore considers that some index of reliability of supply should be incorporated for maintenance of the pipeline as part of GGT's role as a "prudent pipeline operator".

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

Amendment 9

The GT&C should be amended to include an index of reliability to provide a degree of guarantee of supply with a corresponding reduction in fixed charges if the level of reliability is not met.

Applicable Charges During Interruption of Service (GT&C Clauses 9 and 17)

Clause 9.12 states that all charges will continue to apply in cases of curtailment of supply for either maintenance[5] or due to emergency interruption or force majeure. These charges include the Toll Charge and the Capacity Reservation Charge. Although not specified in clause 9.12, the throughput charge would not be applicable where there is no throughput.

Clause 17.2 outlines the obligation on Users to pay monies in the case of force majeure. Money payable is not clearly defined but includes at least the Toll Charge and Capacity Reservation Charge.

The Code is not prescriptive in regard to the continued application of charges where services are interrupted, other than applying the reasonableness test of section 3.6. Some guidance as to the reasonableness of such provisions can be obtained from industry practice as reflected in other Access Arrangements. Table 3 summarises the practices of Covered Pipelines around Australia in respect of the payment of charges during periods of emergency, force majeure or maintenance.

[4] Amelioration of the consequences of force majeure or emergency is discussed as a separate amendment (see Amendment 10).

[5] Clause 8.2 of the GT&C, headed "Interruption for Maintenance" actually includes interruption for the purposes of testing, adding to, altering, repairing, replacing, cleaning, upgrading or maintaining any part of the pipeline.

Table 3
Payment of Charges During Periods of Maintenance, Emergency or Force Majeure

Pipeline Name	Requirements for Payment of Charges	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Principal Transmission System	Payment during maintenance or emergencies is not addressed. Charges continue to apply during force majeure, however charges related to MDQ are calculated on actual quantities delivered.	Final Approval: Accepted.
AGL Gas Networks	If a party claims force majeure in writing, it is exempt from its obligations for a "reasonable" period of time, provided it makes efforts to remedy the effect of the force majeure. No mention is made of charging during maintenance or emergencies.	Final Decision: Accepted
Central West Pipeline	As for AGL Gas Networks.	Final Approval: Accepted
Moomba to Adelaide Pipeline System	Epic proposed that the obligation to pay monies in cases of force majeure where and to the extent that force majeure curtails supply should be removed.	Draft Decision: Accepted
Moomba to Sydney Pipeline	Eastern Australian Pipeline Ltd states that it is not liable to compensate Users for loss, injury or damage due to interruptions for maintenance or emergency, but does not specifically mention relief from charges. For force majeure, Firm Transportation and Short Take Off Point Services are relieved from the requirement to pay the Service Capacity Charge, but no other charges.	Draft Decision: Accepted
Parmelia Pipeline	Payment during maintenance or emergencies is not addressed, but reservation charges continue to apply during force majeure.	Final Approval: Access Arrangement was amended to specify a degree of reliability for the Firm Extended Service and to make

Pipeline Name	Requirements for Payment of Charges	
	Access Arrangement Proposal	**Draft/Final Decision**
		provision for the waiver or reduction of reservation charges where this degree of reliability is not achieved.
Amadeus Basin to Darwin Pipeline	Payment during maintenance or emergencies is not addressed. Charges continue to apply during force majeure, however charges related to MDQ are calculated on actual quantities delivered.	Regulator's decision pending.
Tubridgi Pipeline System	Payment during maintenance or emergencies is not addressed. For force majeure, charges are not explicitly mentioned, but the GT&C exempt all parties from their obligations for non-performance as a result of force majeure.	Draft Decision: Amendment required so that charges are waived when the Service Provider claims force majeure, to the extent that services are curtailed and that a degree of reliability for the Firm Extended Service be specified. The amendment is also to make provision for the waiver or reduction of reservation charges where this degree of reliability is not achieved.

Pipeline Name	Requirements for Payment of Charges	
	Access Arrangement Proposal	**Draft/Final Decision**
Dampier to Bunbury Natural Gas Pipeline	Shippers are entitled to re-imbursement of charges for curtailment of supply, but not when that curtailment is due to force majeure or necessary for Epic in its role as a "reasonable and prudent pipeline operator"[6]. This would appear to cover maintenance and emergencies.	Regulator's decision pending.

Most Access Arrangements lodged with regulators have proposed that charges would continue to apply where supply interruptions occur due to maintenance, emergencies or force majeure. However, as indicated in Table 3, regulators have not agreed to the application of charges by the Service Provider in some cases and amendments to proposed Access Arrangements have been sought in Draft and Final Decisions.

Neither the Service Provider nor the User may have control of the occurrence of emergencies or events that give rise to force majeure, however, this is not the case when dealing with the consequences of such events. If an emergency or incidence of force majeure damages the pipeline, the Service Provider is the principle party to deal with its consequences, and remedy the damage. If an emergency or a force majeure event occurs in relation to a User's facilities, then the User is the principle party able to deal with the resulting consequences.

An important aspect in assessing the reasonableness of arrangements to manage emergencies and force majeure events is matching the risks associated with these events with the party that is best able to address the consequences. From the perspective of reasonableness, the party best able to deal with the resulting consequences is likely to be the best party to assume the risks. This ensures that incentives will be in place for services to be returned back to normal as rapidly as possible.

In these circumstances, the Regulator considers it reasonable that payment or non-payment of fees and charges should be closely linked to a party's ability to address the consequences of a force majeure event or emergency occurring. This would imply that charges should be waived in cases where GGT is unable to perform its obligations due to its claiming force majeure or emergencies. This is consistent with previous regulatory decisions, as outlined in Table 3.

For interruptions due to planned maintenance within the stated reliability index, it is appropriate that charges by the Service Provider should continue to apply as such maintenance is both readily predictable and is necessary for the prudent operation of the

[6] Epic may only curtail supplies as a "reasonable and prudent pipeline operator" within the Permissible Limit, which is defined as 1% of the Shipper's MDQ multiplied by the number of Days in the Year. There thus appears some scope for re-imbursement for curtailment due to maintenance or emergency outside these limits.

pipeline. Charging in these circumstances is consistent with the proposed amendments that suitable notice of planned maintenance be given (Amendment 8) and that an index of reliability to provide some degree of guarantee of supply with a corresponding reduction in fees if the level of reliability is not met (Amendment 9) be made to the proposed Access Arrangement.

Since the User's Accumulated Imbalance and Variance Quantity will be affected by any gas flow restrictions caused by maintenance, emergency and force majeure, Clause 9.12 should be amended to relieve Users from any obligation to pay the Accumulated Imbalance and Variance Charges resulting from such interruptions.

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

Amendment 10

Clause 9.12 of the GT&C should be amended so that fixed charges of the Reference Tariff are waived to the extent that the provision of the service is reduced where the Reference Service is interrupted or reduced by a failure of the GGT to carry out any of its obligations under a Service Agreement for reasons of force majeure or emergency.

Clauses 9.12 should also be amended to relieve the User from payment of Accumulated Imbalance and Variance Charges resulting from interruptions attributable to the GGT.

Changes in Deposits or Bonds (GT&C Clause 9)

Clause 9.13 of the GT&C requires a User to pay a deposit or bond prior to the commencement of a service or at some other time as agreed to by the parties. Neither the Access Arrangement nor the GT&C provide any guide as to the amount that GGT may require as a bond or surety, but clause 9.13(a) makes provision for the GGT, at its discretion, to increase the bond or deposit in the case of an increase in the reserved MDQ. If a User increases its MDQ during a year, then the GGT may require the bond or deposit to be correspondingly increased from the beginning of the next year. The GT&C do not, however, provide for a reciprocal reduction in the bond or deposit in the event of a reduction in the reserved MDQ. The reserved MDQ is the daily amount that GGT and the User have agreed upon in the Service Agreement and is fixed unless the parties negotiate to have it altered.

The Regulator considers that it is reasonable for an Access Arrangement to specify the basis on which a bond or surety is determined and for the Access Arrangement to provide for reductions in the bond or surety on a basis similar to that specified for increases in the bond or surety.

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

Amendment 11

Clause 9.13 of the GT&C should be amended to specify the basis on which a bond or surety is determined and clause 9.13(a) should be amended to provide that a bond or surety will decrease on a basis similar to that used for determining increases in the bond or surety.

Underpayment and Overpayment of Invoices (GT&C Clause 13)

Clause 13.7 of the GT&C establishes the procedure for correcting an underpayment or overpayment of an invoice. Interest on the amount of the invoice, which is in error, is payable from the time of issue of the invoice even if the error is due to GGT.

The Regulator considers that a more reasonable approach would delay the application of interest until after a reasonable period has elapsed to allow the relevant party to rectify the underpayment or overpayment. In the case of an overpayment the User should be eligible for a refund and in the case of an underpayment the Service Provider should be eligible. However, interest should only become payable after discovery of the error from a date that allows a reasonable period for the relevant party to rectify the error.

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

Amendment 12

Clause 13.7 of the GT&C should be amended so that interest is accrued on underpayments or overpayments after a reasonable period has been given for a party to rectify the underpayment or overpayment, rather than from the actual date of underpayment or overpayment.

Invoicing and Payment (GT&C Clause 13)

Clause 13.5 of the GT&C requires that all invoices be paid, even when in dispute, and that any dispute in relation to an invoice be referred to the dispute resolution procedure contained in clause 22 of the GT&C after payment of the invoice.

The result of this is that Users must pay the full amount of an invoice, regardless of whether that invoice is correct.

As indicated in Table 4 below, there does not appear to be a clear approach by the gas pipeline industry on this matter.

Table 4
Disputed Invoices

Pipeline Name	Requirements in Relation to Disputed Invoices	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Principal Transmission System	No specific mention is made other than that the User must pay the invoice within 14 days.	Final Approval: Accepted.

Pipeline Name	Requirements in Relation to Disputed Invoices	
	Access Arrangement Proposal	**Draft/Final Decision**
AGL Gas Networks	Not mentioned, but AGL reserves the right to charge interest on invoices not paid within 14 days	Final Decision: Accepted.
Central West Pipeline	As for AGL Gas Networks	Final Approval: Accepted.
Moomba to Adelaide Pipeline System	In cases of manifest error, the parties may negotiate the disputed portion, otherwise the full invoice must be paid.	Draft Decision: Approved, with some changes to the timeframe for making a complaint and paying an invoice.
Moomba to Sydney Pipeline	In cases of manifest error, the parties may negotiate the disputed portion, otherwise the full invoice must be paid.	Draft Decision: Accepted.
Parmelia Pipeline	User must pay the full amount of the invoice in the case of a dispute and can be reimbursed later.	Final Approval: Access Arrangement 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.
Amadeus Basin to Darwin Pipeline	No specific mention is made, save that the User must pay the invoice within 14 days.	Regulator's decision pending.
Tubridgi Pipeline System	User must pay the full amount of the invoice in the case of a dispute and can be reimbursed later.	Draft Decision: Amendment required 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.
Dampier to Bunbury Natural Gas Pipeline	The Shipper may give notice and withhold the disputed portion, and then engage in negotiation with Service Provider to resolve the dispute.	Regulator's decision pending.

In the Final Decision for the Parmelia Pipeline and the Draft Decision for the Tubridgi Pipeline System, the Regulator required an amendment allowing for the non-payment of an invoice or portion of an invoice where there is a manifest error in the invoice.

The Regulator considers it reasonable for the GGT 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.

The Regulator also considers that provision may be made for the charging of interest on a reasonable basis where payment has been withheld by a User on the ground of manifest error, but where it is subsequently determined that no such error exists.

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

Amendment 13

Clause 13.5 of the GT&C should be amended to allow for the non-payment of disputed invoices, or the non-payment of the disputed portion of an invoice, in instances of a manifest error in the invoice.

Termination (GT&C Clause 16)

Clause 16.1(b)(2) of the GT&C provides for the Service Provider to immediately terminate the Service Agreement after giving notice to the User if the User is in default of the Service Agreement.

Clause 16.5(a) of the GT&C provides that if the Owners are in default of a material obligation imposed upon them by the Service Agreement and where such default is capable of remedy fails to proceed to remedy or remove the cause or causes of default within a period of 30 days from the receipt of a notice from the User to GGT to remedy or remove the default, then the User may terminate the Service Agreement.

The Regulator considers it reasonable that the provisions of termination clauses should be the same for both the User and the Service Provider and that a reasonable period of time is provided for either party to remedy or remove the cause or causes of default before the agreement can be terminated.

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

Amendment 14

The GT&C should be amended so that provisions for termination of a Service Agreement are the same for both the User and the Service Provider and that a reasonable period of time is provided for either party to remedy or remove the cause or causes of default before an agreement can be terminated.

Liabilities (GT&C Clause 18)

Clause 18 of the GT&C outlines the liabilities of parties to a Service Agreement. In brief:

- neither party is liable for the losses specified in clause 18.1(a), except those losses that are the direct or indirect result of negligence or wilful default on the part of the other party;
- the User remains liable for appropriate tariffs and charges irrespective of other limitations to liability;
- GGT is not liable for an amount greater than the equivalent of one year's charges which would have been payable by the User under the Service Agreement;
- the liable party is liable for direct losses only; and
- the User alone is liable for proximate losses.

Clause 18.1(c) of the GT&C, as summarised in the third dot point above, limits the liability of GGT to the equivalent of a maximum of one year's charges which would have been payable by a User.

This provision has been compared with similar provisions in other Access Arrangements as summarised in Table 5 below. All Access Arrangements reviewed limit the liability of the Service Provider to direct losses, but only a few impose a cap on the liability of the Service Provider.

Table 5
Liability Caps for Pipeline Operators on Pipelines Around Australia

Pipeline Name	Liability Cap Requirements	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Principal Transmission System	Liability is limited to actual only, but there is no cap on liability.	Final Approval: Accepted.
AGL Gas Networks	Liability will be limited to actual damages but there is no cap on liability.	Final Decision: Accepted.
Central West Pipeline	As for AGL Gas Networks.	Final Approval: Accepted.
Moomba to Adelaide Pipeline System	Liability is limited to either direct losses only, or capped at 2.5 times the charge for the gas which constitutes the shortfall, whichever is the lesser.	Draft Decision: Required "lesser" to be changed to "greater".
Moomba to Sydney Pipeline	Liability is limited to direct losses only, but there is no cap on liability.	Draft Decision: Accepted.

Pipeline Name	Liability Cap Requirements	
	Access Arrangement Proposal	**Draft/Final Decision**
Parmelia Pipeline	Liability is limited to direct losses only, and liability is capped to the sum recoverable under CMS's public liability insurance policy. Users are required to provide public liability insurance of not less than $5 million.	Final Approval: Accepted
Amadeus Basin to Darwin Pipeline	Liability is limited to actual damages only, but there is no cap on liability.	Regulator's decision pending.
Tubridgi Pipeline System	Liability is limited to claims made within one month of the User becoming aware of them and capped to one month of User charges.	Draft Decision: Amendment required to clarify the nature of claims relevant to this clause and to ensure that there is no unreasonable limit on the size of claims able to be made by a User against the Tubridgi Parties.
Dampier to Bunbury Natural Gas Pipeline	Liability is limited to direct losses only, but there is no cap on liability.	Regulator's decision pending.

A limit on liability implies that, should losses to a User exceed this liability, the User will not be able to claim from GGT those losses that exceed the limit on liability. The Regulator considers that a limit on the liability of the Service Provider, including those relating to proximate losses, without the same limits on the liability of the User is not reasonable.

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

Amendment 15

Clause 18 of the GT&C should be amended so that any limits on liability or other conditions relating to liability should apply in the same way to both the Service Provider and User including as to proximate losses.

Reduction of Average Fixed Charges (GT&C Clause 18)

Clause 18.5 of the GT&C allows for a refund in average fixed charges (the Toll Charge and Capacity Reservation Charge) in cases where supply is curtailed for more than 48 consecutive hours through either the direct or indirect fault of GGT. However, the refund is only available if the User makes application within 14 days.

Clause 18.5 is affected by the Regulator's requirement for an index of reliability to provide some degree of guarantee of supply with a corresponding reduction in fees if the level of reliability is not met as specified in Amendment 9 above. Clause 18.5 of the GT&C therefore needs to be made consistent with any changes made to the GT&C in accordance with Amendment 9.

The Regulator also considers that invoices should automatically be adjusted to account for the minimum level of reliability not being met and that there should be no need for a User to make application for a refund or credit.

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

Amendment 16

Clause 18.5 of the GT&C should be amended to be consistent with the requirement for an index of reliability as specified in Amendment 9 and that invoices be automatically adjusted if the minimum level of reliability is not met. In particular, the requirement for a User to make application for a refund or credit should be removed.

Technical Requirements for Inlet and Outlet Facilities (GT&C First and Second Schedules)

The First and Second Schedules of the GT&C refer to a number of technical requirements for Inlet and Outlet Facilities. One such requirement is for filters on metering equipment. The purpose of these filters is to prevent damage to metering equipment from any foreign material that may be contained in the gas.

However, not all metering equipment (eg- ultrasonic meters) has moving parts which require protection by filters. In such cases, the Regulator does not consider it reasonable for filters to be mandated.

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

Amendment 17

The First and Second Schedules of the GT&C should to be amended to recognise that the requirement for filters may be unnecessary in certain circumstances depending on the type of metering equipment installed.

Spare Parts (GT&C Second Schedule)

The final clause of the Second Schedule states that Users must provide GGT with sufficient spare parts from time to time as GGT considers necessary for the effective maintenance of outlet facilities. However, the clause does not provide for a situation where outlet facilities are owned by GGT in which case a requirement on a User to provide spare parts would be unreasonable.

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

Amendment 18

The Second Schedule of the GT&C should be amended to recognise that the requirement for Users to supply spare parts applies only where the outlet facilities are not owned by GGT.

4.4 CAPACITY MANAGEMENT POLICY

4.4.1 Access Code Requirements

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

(a) a Contract Carriage Pipeline; or

(b) a Market Carriage Pipeline.

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

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

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

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

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

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

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

(b) Users are not normally 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 Regulator must not accept an Access Arrangement which states that the Covered Pipeline is a Market Carriage Pipeline unless the Relevant Minister of each scheme participant in whose jurisdictional area the pipeline is wholly or partly located has given notice to the Relevant Regulator permitting the Covered Pipeline to be a Market Carriage Pipeline.

4.4.2 Access Arrangement Proposal

In clause 11 of the Access Arrangement, GGT propose to manage the Goldfields Gas Pipeline as a Contract Carriage Pipeline.

4.4.3 Submissions from Interested Parties

Only one comment was made in submissions relating to the capacity management policy, which was by Western Mining giving support for management of the pipeline as a Contract Carriage Pipeline.

4.4.4 Additional Considerations of the Regulator

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.

4.5 TRADING POLICY

4.5.1 Access Code Requirements

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

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

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

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

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

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

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

which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.

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

Section 3.11 of the Code 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.

4.5.2 Access Arrangement Proposal

A Trading Policy is provided by GGT in clause 9 of the Access Arrangement and detailed in clauses 20.6 (Bare Transfer) and 20.7 (Transfer of Capacity other than Bare Transfer) of the General Terms and Conditions.

Bare Transfer (Clause 20.6 of the GT&C)

Under clause 20.6(b) of the GT&C, the following information must be supplied to GGT by the New User of capacity transferred through a Bare Transfer before the New User can use the Transferred Capacity:

(1) the portion of the User's capacity entitlement under the Service Agreement which is to be Transferred Capacity;

(2) the identity of the New User;

(3) the Outlet Point(s) to be utilised by the New User; the respective MDQ for the Inlet Point and Outlet Point(s);

(4) the term of the assignment or transfer of that Capacity entitlement to the New User; and

(5) any rights reserved by the User in the Transferred Capacity with respect to priority to Capacity in the event of an interruption or curtailment to the Service, or any other matter relevant to the respective rights of the User and New User.

In addition, clause 20.6(c) states that a transfer will not be deemed a Bare Transfer if the reasonable opinion of GGT is that the transferred capacity and the rights retained by the User under the Service Agreement are in excess of the rights originally granted to the User under the Service Agreement.

Transfer of Capacity other than Bare Transfer (Clause 20.7 of the GT&C)

For capacity transfers other than Bare Transfers, GGT reserves the right to withhold its consent or make approval subject to conditions on the basis of reasonable commercial or technical grounds. These may include the requirement that a New User enter into a deed of covenant under which it agrees to be bound by the Service Agreement or pay a bond. GGT

also requires similar information as in clause 20.6(b) from the New User, however, this information must be provided prior to GGT approving the Transfer.

GGT also requires the New User to pay connection charges for any new outlets and to ensure that those outlets comply with the technical standards in the Second Schedule of the General Terms and Conditions document.

GGT states that it will advise the User of consent to transfer within 30 days, or specify reasonable technical or commercial conditions within the same timeframe.

4.5.3 Submissions from Interested Parties

Development of Secondary Markets

- Normandy

  Normandy is aware of very efficient and effective screen based/internet trading systems in use overseas (for both uncontracted or non-firm capacity). This could be applied and/or GGT could allow contracted capacity to be re-traded. In Normandy's view, GGT should be required to provide a full "Secondary Market" service, extending to the provision of an on-line trading system. They should also undertake to make available any spare capacity held by themselves or able to be made available, and to allow unused contracted capacity to be offered on such a system.

- WMC Resources

  WMC is aware of very efficient and effective screen based/internet trading systems in use overseas for both uncontracted or non-firm capacity, or to allow contracted capacity to be re-traded. In WMC's view, GGT should be required to provide a full "Secondary Market" service, extending to the provision of an on-line trading system. They should also undertake to make available any spare capacity held by themselves or able to be made available, and to allow unused contracted capacity to be offered on such a system.

The Regulator considers the development of a secondary market to trade in contracted and spare capacity to be important in facilitating the optimal use of pipelines and encourages its development. However, it is not necessarily the case that it would be preferable for GGT, as opposed to some third party, to develop a secondary market. Requiring the GGT to provide a "Secondary Market" service may pre-empt and potentially inhibit the development of such a market by other parties.

No amendment to the Access Arrangement is therefore required.

Information Required for Bare Transfers

- AlintaGas

  AlintaGas submits that some, if not all of the requirements for notification prior to bare transfer go beyond that permitted by section 3.10 of the National Access Code.

Section 3.10(a) of the Code states that:

> …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.

GGT has requested information in clause 20.6(b) of the GT&C that is inconsistent with that which may be requested under section 3.10 of the Code.

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

Amendment 19

Clause 20.6(b) of the GT&C should be amended so that the information required to be supplied by a User to the GGT in the case of a Bare Transfer is consistent with section 3.10 of the Code.

Conditions on Transfers Other Than Bare Transfers

- Treasury, Office of Energy and Department of Resources Development

  The Regulator should consider whether GGT's right of veto over transfers of capacity other than bare transfers might inhibit development of a secondary market.

The Code allows for a Service Provider to make conditions under which a Consent Transfer may take place, providing those conditions are reasonable and consistent with the legitimate commercial interests of the Service Provider.

GGT has stated that it may withhold its consent for transfers only on reasonable technical or commercial grounds. The Regulator considers that a right to withhold such consent is provided to the Service Provider by section 3.10(b) of the Code.

No amendment to the Access Arrangement is therefore required.

Rights Retained by a User Under a Bare Transfer

- AlintaGas

  GGT has included as clause 20.6(c) a provision stating that the terms of the service agreement are deemed to be altered by a transfer if, in the reasonable opinion of GGT, the transferred capacity and the rights retained by the user under the service agreement are in excess of the rights originally granted to the user under the service agreement. This clause operates to make such a transfer outside the definition of "bare transfer".

Clause 20.6(c) of the GT&C states that:

> …the terms of the Service Agreement will be deemed to be altered as a result of the assignment or transfer and the User will not be able to effect a Bare Transfer if in the reasonable opinion of GGT, the Transferred Capacity and the rights retained by the User under the Service Agreement are in excess of the rights originally granted to the User under the Service Agreement.

The Code defines a Bare Transfer as a transfer or assignment of capacity where the terms of the contract with the Service Provider are not altered as a result of the transfer or assignment. The Regulator considers that Clause 20.6(c) is generally consistent with the provisions of the Code and therefore no amendment to the Access Arrangement is required.

4.5.4 Additional Considerations of the Regulator

The Trading Policy, as set out in clause 9 of the Access Arrangement, confers a right for the transfer or assignment of all or part of a User's rights under a Service Agreement. The basis on which these rights may be transferred or assigned are detailed in clause 20 of the GT&C. A Service Agreement is defined in the proposed Access Arrangement as a "Reference Service Agreement". However, the Code does not constrain the Trading Policy to apply exclusively to Reference Services, but to all services provided in respect of the Covered Pipeline. Therefore, an amendment is required to the proposed Access Arrangement so that the Trading Policy applies to both Reference and Non-Reference Services.

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

Amendment 20

The proposed Access Arrangement should be amended so that the Trading Policy, as required by the Code, will apply to both Reference and Non-Reference Services provided by the Covered Pipeline.

4.6 QUEUING POLICY

4.6.1 Access Code Requirements

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

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

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

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

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

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

(a) the Service Provider's legitimate business interests and investment in the Covered Pipeline;

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

(c) the operational and technical requirements necessary for the safe and reliable operation of the Covered Pipeline;

(d) the economically efficient operation of the Covered Pipeline;

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

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

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

4.6.2 Access Arrangement Proposal

A Queuing Policy is provided by GGT in clause 7 of the Access Arrangement.

The Queuing Policy provides for spare capacity and developable capacity to be allocated on a first come first served basis with priority accorded on the basis of the date an order is received from Prospective Users by GGT for Spare Capacity and Developable Capacity. This includes situations where an existing User seeks to extend the term of an existing Service Agreement, or seeks to increase the MDQ pertaining to an existing Service Agreement:

7.1 …

(e) Where an existing User:

(1) exercises an option to extend the Term of the Agreement; or

(2) gives notice under clause 6.10 of its desire to increase the MDQs or extend the Term of the Agreement,

the exercise of the option or notice will be deemed to be a new application for Spare Capacity and Developable Capacity and the date GGT receives notice of the exercise of the option or request for increase or extension will determine the priority accorded to the new application.

Clause 7.1(c) sets out the circumstances in which a User ceases to maintain a priority in the queue:

7.1 …

(c) A Prospective User ceases to maintain priority if:

(1) its Order Form is rejected pursuant to clause 6.8(a);

(2) its Order Form is rejected pursuant to clause 6.8(b)(2);

(3) it withdraws its Order Form;

(4) it fails to comply with the terms of the Service Agreement; or

(5) an insolvency event occurs in relation to the Prospective User.

Clause 7.1(f) of the Queuing Policy states that:

> … GGT will use all reasonable endeavours to notify Prospective Users of that Spare Capacity or Developable Capacity in an order and manner which has regard to the rights of Users under Existing Contracts.

and clause 7.1(g) that:

> The rights of any Prospective User under and the operation of this clause is subject to and conditional on GGT complying with and satisfying any legal or contractual obligations it has to provide additional Capacity under, or to extend the term of, an Existing Contract.

4.6.3 Submissions from Interested Parties

Inadequacies of First Come First Served

✎ AlintaGas

> The queuing policy in clause 7.1 of the proposed Access Arrangement allocates priority between prospective users seeking reference services on a "first come first served" basis where a completed and executed Order Form is received by GGT. AlintaGas considers that a first come first served regime, although superficially attractive, is in fact too simplistic. Such a regime does not provide the flexibility to, for example:
>
> 1. accept later in time prospective users seeking only the reference service whilst an earlier user is "bogged down" in negotiation or arbitration with GGT; or
> 2. accept a later in time prospective user who seeks the reference service for a greater amount of capacity and longer duration than the first in time prospective user.
>
> AlintaGas submits that the "pure" first come first served regime proposed by GGT does not meet the requirements of Sections 3.13 (b) and (c) of the National Access Code.

Section 3.13 of the Code lists three requirements to be met by a Queuing Policy. The first of these requirements is that the Queuing Policy must:

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

While the proposed Queuing Policy is unclear on a number of matters on which the Regulator is seeking amendments (Amendment 21 and Amendment 22), the first come first served approach of the policy is consistent with section 3.13(a) of the Code.

A Queuing Policy that makes provision for priority to be ascribed to an application of a later-in-time Prospective User:

> (1) seeking only the reference service whilst an earlier user is "bogged down" in negotiation or arbitration with GGT; or
>
> (2) who seeks the reference service for a greater amount of capacity and longer duration than the first in time prospective user,

would be unlikely to be capable of enabling Users and Prospective Users to clearly understand in advance how the Queuing Policy operates. The type of policy capable of offering the flexibility suggested by AlintaGas would be likely to require a level of discretion by the Service Provider that would be inconsistent with section 3.13(a) of the Code.

Sections 3.13(b) and (c) require that the Queuing Policy accommodate the legitimate business interests of the Service Provider and of Users and Prospective Users and generate economically efficient outcomes, but subject to "…the extent reasonably possible". The qualification of sections 3.13(b) and (c) that these requirements must be met "…to the extent reasonably possible" suggests that a Queuing Policy must in the first instance meet the requirement set out by section 3.13(a). As discussed above, subject to the two amendments sought by the Regulator (Amendment 21 and Amendment 22) the first come first served Queuing Policy proposed by GGT is therefore considered to meet the requirements of section 3.13 of the Code.

Rights of Current Users

✎ Treasury, Office of Energy and Department of Resources Development

> The Queuing Policy would need to clarify the differences (if any) between the rights of the users (including the owners) with contracts existing before the proposed Access Arrangement was submitted to the Regulator, and prospective users seeking a reference service.
>
> Clause 21(3) of the Goldfields Gas Pipelines Agreement Act 1994 has the effect that the Gas Pipelines Access (WA) Act 1998 shall not apply in relation to the use of Initial Committed Capacity by the joint venturers. This provision appears to have identical effect to the grandfathering provisions in the Code, which needs to be taken into consideration by the Regulator in determining a position on the Queuing Policy.

Grandfathering is provided for in section 2.25 of the Code which is as follows:

> 2.25 The Relevant Regulator must not approve an Access Arrangement (or draft and approve its own Access Arrangement) any provision of which would, if applied, deprive any person of a contractual right in existence prior to the date the proposed Access Arrangement was submitted (or required to be submitted), other than an Exclusivity Right which arose on or after 30 March 1995.

The Regulator concurs with the view expressed by Treasury, Office of Energy and Department of Resources Development that subclause 21(3) of the *Goldfields Gas Pipelines Agreement Act 1994* has an identical effect to the grandfathering provisions of section 2.25 of the Code.

Subject to the amendments required by the Regulator (Amendment 21 and Amendment 22) the provisions of the proposed Queuing Policy appear to be consistent with the provisions of section 3.13 of the Code.

Potential Conflict Between Queuing Policy and Supplementary Quantity Options (SQO)

✎ Treasury, Office of Energy and Department of Resources Development

> It is also not clear how Supplementary Quantity Options may impact on the rights of Prospective Users in the queue.

As discussed under section 4.3.3 of this Draft Decision, the SQO is a service offered solely to existing Users in order that they may correct imbalances or transport gas in excess of their MDQ on an occasional basis, similar in effect to an authorised overrun of contracted MDQ. Because of the short term nature of the SQO, it is of no value to Prospective Users seeking longer term contracted capacity. Furthermore, the short term nature of the SQO and its inability to be packaged to be of value to Prospective Users, means that it would be inappropriate for the SQO to be subject to the Queuing Policy.

4.6.4 Additional Considerations of the Regulator

Under the Queuing Policy described in clause 7 of the proposed Access Arrangement, where a User exercises an option to extend the term of an existing Service Agreement or gives notice to increase MDQ or extend the term of a Service Agreement, the exercise of such an option or the giving of such notice is deemed to be a new application for Spare Capacity and Developable Capacity. Under the Code a new application for Spare or Developable Capacity, even by an existing User, would ordinarily be deemed to be an application by a Prospective User. The Queuing Policy is, therefore, unclear on whether the User in

exercising an option or in giving notice under clause 7.1(e) is deemed to be a Prospective User.

The Queuing Policy is also unclear on whether there is one queue for all Spare and Developable Capacity or whether there are two queues, one pertaining to Prospective Users and another for existing Users.

The Regulator considers that the proposed Access Arrangement should be amended to clarify whether a User, in exercising an option or in giving notice under clause 7.1(e) of the proposed Access Arrangement, is deemed to be a Prospective User in these circumstances and whether the Queuing Policy contemplates one or more queues as might be implied by the provision of clause 7.1(g) that allows GGT to comply and satisfy any legal or contractual obligations it has to provide additional capacity or to extend the term of an existing contract.

The following amendment is required before the proposed Access Arrangement is approved.

Amendment 21

The proposed Access Arrangement should be amended to clarify whether a User, in exercising an option or in giving notice under clause 7.1(e), is deemed to be a Prospective User for the purposes of clause 7.1 of the Access Arrangement and whether the Queuing Policy contemplates one or more queues.

In view of the uncertainties of the proposed Queuing Policy, it is also unclear as to the extent to which the proposed Access Arrangement makes provision for extensions to the term of Service Agreements. The Regulator considers it reasonable that a Service Agreement be capable of including an option to extend the term of the Service Agreement for the capacity contracted in that agreement. Such an option, if exercised by the User, should not require the allocation of that capacity via the Queuing Policy.

The following amendment is required before the proposed Access Arrangement is approved.

Amendment 22

The proposed Access Arrangement and/or GT&C should be amended to make provision for a Service Agreement to be capable of including an option to extend the term of the Service Agreement for the capacity contracted in that agreement without exercise of the option being subject to allocation of spare capacity in accordance with the Queuing Policy.

4.7 EXTENSIONS/EXPANSIONS POLICY

4.7.1 Access Code Requirements

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

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

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

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

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

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

4.7.2 Access Arrangement Proposal

An Extensions/Expansions Policy is provided by GGT in clause 10 of the proposed Access Arrangement.

GGT states (clause 10.1) that it will use all reasonable endeavours to extend or expand the pipeline where the proposed extension or expansion:

(a) is technically feasible and economically viable;

(b) is consistent with the safe and reliable operation of the Pipeline;

(c) receives all relevant regulatory approvals; and

(d) has regard to good pipeline industry practice.

GGT also indicates (clause 10.2) that it will undertake investigations of Developable Capacity if:

- a Request for Service or Request for Service Expansion or Extension is received;
- Spare Capacity to satisfy that Request is not likely to become available in the foreseeable future;
- the Developable Capacity is likely to satisfy the Request; and
- the Prospective User pays the costs of the investigations and commits to make an agreed contribution to the costs of installing the Developable Capacity.

GGT may also undertake investigations of Developable Capacity of its own accord.

The proposed Access Arrangement also states that extensions and expansions of the pipeline will form part of the pipeline and hence be covered if GGT elects and with the Regulator's consent. If this requires an amendment to the then approved Access Arrangement, GGT will lodge the amendment with the Regulator and the amended Access Arrangement will take effect on the date of approval by the Regulator or on some other date elected by GGT and consented to by the Regulator.

In addition, if a User has fully funded an extension or expansion, then this will result in no changes to that User's tariffs. However, other Users will be liable for a surcharge and all Users may be liable for a surcharge for pipeline extensions funded by GGT. The surcharges proposed are those allowed for by section 8 of the Code.

4.7.3 Submissions from Interested Parties

Notification of Non-Coverage

- Treasury, Office of Energy and Department of Resources Development

  The proposal appears to circumvent the approval of the Regulator should GGT elect that an expansion or extension not be covered. The discretion proposed by GGT appears to be derived from sub-paragraph 3.16(a)(ii) of the Code. However, that paragraph could equally be interpreted as requiring the Regulator's consent for an expansion or extension not to be covered under the access arrangement. The Regulator could consider his desired role in monitoring the elections of the service provider whether or not to include extensions and expansions.

The proposed Access Arrangement provides that, if GGT so elects and with the Regulator's consent, a pipeline extension or expansion will be subject to the Access Arrangement as part of the Covered Pipeline. However, the proposed Access Arrangement makes no mention of the case where GGT does not elect an extension/expansion to become part of the Covered Pipeline.

Whilst it is the prerogative of GGT to elect whether an extension/expansion is to become part of the Covered Pipeline,[7] the Regulator considers that in not indicating how such a decision is to be made, the proposed Access Arrangement does not meet the requirements of the Code. This could be remedied by amending clause 10.3 of the proposed Access Arrangement to include a clause indicating that GGT may elect for a pipeline extension or expansion to be not subject to the Access Arrangement, subject to providing written notice to the Regulator.

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

Amendment 23

Clause 10.3 of the proposed Access Arrangement should be amended to include a clause indicating that GGT may elect for a pipeline extension or expansion to be not subject to the Access Arrangement, subject to providing written notice to the Regulator.

Equitable Sharing of Costs - Surcharges

- Treasury, Office of Energy and Department of Resources Development

  If incremental capacity has been "fully funded by others", it is not clear whether there is a mechanism to ensure that the structure of the surcharges reflect a fair and reasonable sharing of the total recoverable costs between incremental users as required under section 8.26(c) of the Code.

[7] Coverage of the pipeline (including any extension or expansion of the pipeline) is subject to the provisions of section 1 of the Code.

The circumstances in which Surcharges may be applied are complex. This is, in part, due to the way in which Surcharges are dealt with in the Code, which does not set out detailed formulae for their calculation but refers to broad principles designed to facilitate a fair re-allocation of the cost of Capital Contributions made by Incremental Users.

In particular, the circumstances in which a Service Provider may impose a Surcharge on an Incremental User of a pipeline where a Capital Contribution has been made by an existing User involves consideration of a number of issues relating to the balancing of interests between the Service Provider, other Incremental Users and, in particular, any contributing Users. The following paragraphs consider the relevant provisions of the Code and how they relate to the Access Arrangement for the Goldfield Gas Pipeline.

Section 8.25 of the Code deals with the circumstances in which a Service Provider may apply Surcharges, as follows:

> 8.25 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 Speculation 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.

Section 8.26 of the Code provides:

> 8.26 A Service Provider may levy a Surcharge on Users of Incremental Capacity provided the following principles apply:
>
> (a) the Surcharges are designed to recover only that part of the New Facilities Investment that satisfies the requirement in section 8.16(a);
>
> (b) the costs that the Surcharges are designed to recover do not include any costs that are included in the Speculative Investment Fund; and
>
> (c) the structure of the Surcharges reflect a fair and reasonable sharing of the total recoverable cost between Incremental Users (and for this purpose any User who is paying a Capital Contribution should be assumed to be paying a Surcharge).

Although section 8.25 of the Code is not expressed to be subject to section 8.26, the Regulator considers the provisions are intended to operate together. Accordingly, a Service Provider may only apply a Surcharge if the Service Provider has given notice to the Regulator pursuant to section 8.25 and the Surcharge satisfies the conditions in section 8.26.

Under paragraph 8.26(a), the Surcharge must not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted industry practice and to achieve the lowest sustainable cost of delivering Services. Further, paragraph 8.26(c) requires the structure of the Surcharges to reflect a fair and reasonable sharing of the total recoverable cost between Incremental Users. It assumes any User paying a Capital

Contribution is paying a Surcharge. Accordingly, to the extent that a contributing User has not recovered its contribution, under section 8.26 the Service Provider cannot impose a Surcharge on the contributing User. Alternatively, the Surcharge must be adjusted downwards to reflect that User's Capital Contribution.

The Regulator understands that there may be some confusion about the way in which Surcharges and Capital Contributions operate under the Code in respect of contributing Prospective Users and non-contributing Incremental Users. To assist in comprehension of this, the Regulator's views on the way in which the Code is intended to operate are outlined below.

Section 6.23 of the Code provides some guidance to the arbitrator in a dispute on how the costs of Capital Contributions by Prospective Users are to be shared. The starting point is paragraph 6.22(e), under which the Service Provider cannot be required to fund New Facilities necessary to meet the requirements of a Prospective User. Under section 6.23, where the Prospective User funds the New Facilities, that funding is treated as if it were incurred by the Service Provider. The Service Provider will then be required to impose a surcharge on Incremental Users (excluding the Prospective User, except for the purposes of calculation of the surcharge to be imposed). The Prospective User is then to be given access on terms that reflect the value to the Service Provider of the Prospective User's contribution.

This has the following implications:

- because the expenditure is treated as if it were incurred by the Service Provider, it will be rolled into the Capital Base and reflected in Tariffs (subject to meeting the prudent Service Provider test). Thus, future Users are prevented from "free-riding" on the Prospective User's initial contribution; and
- the effect of rolling the expenditure into the Capital Base and requiring the imposition of Surcharges is to give the Service Provider a return on an investment that it never made. To avoid such an outcome, the Prospective User's terms of access must "reflect the value to the Service Provider of the contribution". Thus, the Prospective User must receive a rebate that will, in effect, return to the Prospective User the return on investment which the Service Provider would receive. This will include items such as depreciation, the surcharges collected from Incremental Users and so on.

Clause 10.4 of the Goldfields Gas Pipeline proposed Access Arrangement describes the circumstances in which a surcharge may be applied where a pipeline has been extended or expanded:

> (a) Pipeline extension or expansions will result in no change to the Reference Service Tariff applied to a User when those extensions or expansions have been fully funded by that User's capital contributions.
>
> (b) 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.
>
> (c) Pipeline extensions or expansions funded by GGT may result in the application of surcharges as allowed for in section 8 of the Code.

Clause 10.4(b) of the proposed Access Arrangement does not contemplate a situation in which Prospective Incremental Users will be liable for Surcharges as it refers to Incremental Users, which have not made Capital Contributions towards Incremental Capacity "which they use" and which has been funded by others. Accordingly, it is a condition of clause 10.4(b)

that a Surcharge will only be levied where the User is already using the Incremental Capacity, which would not be the case for a Prospective Incremental User. If this is not the Service Provider's intention, clause 10.4(b) should be amended to clarify that the Surcharge may be levied with respect to Incremental Capacity, which the Prospective Incremental User uses or proposes to use.

Additionally, clause 10.4 of the proposed Access Arrangement does not state how a Surcharge will be calculated in circumstances where an existing User has made Capital Contributions. Accordingly, the Regulator considers clause 10.4 should be amended to clarify how a Surcharge will be calculated in such circumstances. Clause 10.4 should also be amended to state that the application of a Surcharge is subject to the Service Provider notifying the Regulator, as required by section 8.25 of the Code.

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

Amendment 24

Clause 10.4(b) of the proposed Access Arrangement, which provides for the Service Provider to apply a Surcharge on a User of Incremental Capacity where parties other than the Service Provider have funded that Incremental Capacity, should be amended to clarify how a Surcharge will be calculated in these circumstances.

Clause 10.4 should also be amended to state that the application of any Surcharge is subject to the Service Provider notifying the Regulator as provided for under section 8.25 of the Code.

Payment for Costs of Investigation

- Treasury, Office of Energy and Department of Resources Development

  On the face of it, it appears reasonable for prospective users to investigate the costs of installing the Developable Capacity. It does not however appear to be justified to expect prospective users to commit to contribute to Developable Capacity before the investigations have been completed ie before the cost of providing that capacity is determined.

Clause 10.2(a) of the Access Arrangement states that a Prospective User requesting an extension/expansion should pay for the investigations regarding the feasibility of the extension/expansion and should also make a commitment to an agreed contribution to the costs of installing developable capacity. This effectively requires a Prospective User to commit to making a contribution to Developable Capacity before investigations have been undertaken.

Section 2.24 of the Code states that the Regulator must take a number of factors into account when assessing an Access Arrangement. Amongst these is section 2.24(f), which requires the Regulator to take into account the interest of Users and Prospective Users.

The Regulator considers that it is not in the reasonable interests of a Prospective User to be required to agree to make a contribution to the costs of installing Developable Capacity until after investigations have been completed.

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

Amendment 25

That clause 10.2(a) of the proposed Access Arrangement be amended to remove the requirement for any commitment by a Prospective User to make a contribution to the costs of installing Developable Capacity prior to investigations as to the costs of installing developable capacity having been completed.

User Contributions to Developing Capacity

- AlintaGas

  There is a requirement that a prospective user contribute to the costs of Developable Capacity, under the "application for service" section. AlintaGas queries the interaction of this requirement with sections 6.22, 6.23 and 8.23 to 8.26 of the National Access Code, which deal with the obligation to develop capacity. AlintaGas requests that the Regulator consider the practical implication of this requirement.

In addressing the methodology for the application of a service, the Access Arrangement indicates in clause 6.4 that GGT will provide a Prospective User with an indication of the costs and charges which may apply for the provision of Developable Capacity as well as indicative costs of investigations that Prospective Users may be required to meet in respect of investigations into available capacity. These clauses imply that a Prospective User will be required by GGT to pay certain costs.

This is contrasted in the submission quoted above with sections 6.22 and 6.23 of the Code that require the Service Provider to develop capacity.

Section 6 of the Code deals with dispute resolution and sections 6.22 and 6.23 refer to the obligation of the Service Provider to provide capacity. They become relevant when a Service Provider and a Prospective User cannot agree on new capacity. When this is the case the Arbitrator may require the Service Provider to expand capacity of the Covered Pipeline. Specific guidelines are provided in the Code to guide the Arbitrator in this regard. In particular, the Service Provider cannot be required to fund any expansion (section 6.22 (e)) and the Service Provider must levy surcharges on Incremental Users (other than the Prospective User bearing the cost of the New Facilities Investment) (section 6.23 (b)).

In addition, section 8.26 of the Code indicates an expectation that Users would pay for Incremental Capacity by providing the framework and conditions under which a Service Provider may levy a Surcharge on users of Incremental Capacity.

The intent of these and related sections is that the Code does not expect the Service Provider to fund the development of capacity where this is required to service a Prospective User. The Regulator therefore does not consider the provisions in clause 6 of the proposed Access Arrangement on "Application for Service" to be in conflict with the provisions of the Code other than amendments required in other parts of this Draft Decision.

No amendment of the proposed Access Arrangement is therefore required.

4.8 REVIEW AND EXPIRY OF THE ACCESS ARRANGEMENT

4.8.1 Access Code Requirements

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

(a) a date upon which the Service Provider must submit revisions to the Access Arrangement (a **Revisions Submission Date**); and

(b) a date upon which the next revisions to the Access Arrangement are intended to commence (a **Revisions Commencement Date**).

In approving the Revisions Submissions Date and Revisions Commencement Date, the Regulator under section 3.17(b) of the Code must have regard to the objectives for Reference Tariffs and Reference Tariff Policy in section 8.1 of the Code, and may in making a decision on an Access Arrangement (or revisions to an Access Arrangement), if considered necessary having had regard to the objectives in section 8.1 of the Code:

(a) require an earlier or later Revisions Submission Date and Revisions Commencement Date than proposed by the Service Provider in its proposed Access Arrangement;

(b) 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 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:

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;

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) of the Code, the Regulator must investigate no less frequently than once every five years whether a review event identified in the mechanism has occurred.

4.8.2 Access Arrangement Proposal

Clause 3 of the proposed Access Arrangement states that the Access Arrangement will come into effect on the "Effective Date" (i.e.-the date on which the Access Arrangement comes into effect, as specified by the Regulator) and will continue for approximately five years. The Revisions Submission Date is not specified in the proposed Access Arrangement, but is stated in clause 3.2 of the proposed Access Arrangement to be 4.5 years after the Effective Date. The Revisions Commencement Date (or start of the new Access Arrangement) is also not specified, but clause 3.2 of the proposed Access Arrangement states that it is the later of

five years after the Effective Date or when the revised Access Arrangement is approved by the Regulator.

Clause 3.3 of the proposed Access Arrangement makes provision for GGT to conduct a review at any time, including if any one of the following events occur:

(a) a Pipeline Extension which is subject to this Access Arrangement is undertaken;

(b) 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 this Access Arrangement;

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

(d) any other event occurs which requires this Access Arrangement to be updated or amended under any other provision of this Access Arrangement; or

(e) GGT believes it has reason to make a change to this Access Arrangement.

Although the proposed Access Arrangement describes the circumstances in which GGT may review the Access Arrangement, it does not specify any events that may trigger a requirement on GGT to submit revisions of the Access Arrangement to the Regulator.

4.8.3 Submissions from Interested Parties

Triggers for Review

- Normandy

  Depending on the final approach adopted in selecting the WACC discount rate and its treatment of tax, a circumstance which may undermine the assumptions made when the Access Arrangement was submitted would be a change in the corporate tax rate - as is being proposed by the Commonwealth Government at present. There may be other specific changes which become apparent to OffGAR in the assessment process which should also trigger a review of particular aspects of the Access Undertaking.

- WMC Resources

  Depending on the final approach adopted in selecting the WACC discount rate and its treatment of tax, one such circumstance would be a change in the corporate tax rate - as is being proposed by the Commonwealth Government at present. There may be other specific changes which become apparent to OffGAR in the assessment process which should also trigger a review of particular aspects of the Access Undertaking.

- Anaconda

  The proposed period for the Access Arrangement is five years. This appears a reasonable balance between the competing issues of compliance with the code and the protection of the legitimate business interests of the owners. We would request that a couple of safety options be included with this review period, as follows:

  - Any major revision of the corporate tax rate, or associated tax changes should immediately trigger a review of Tariff Arrangements. Any changes in tax rate immediately flow through to the cost of capital, a major Tariff driver.
  - A major variation in gas throughput. Given GGT's lack of expectation in growth we would suggest a 10% increase as reasonable.

- Treasury, Office of Energy and Department of Resources Development

  Should the throughput projections be accepted, the Regulator may need to consider requesting the inclusion of a trigger mechanism whereby the GGT is required to submit revisions to the Access Arrangement in the event… actual throughput exceeds the forecast throughput used in the determination of the proposed initial reference tariffs.

In relation to the treatment of recent changes in taxation including the introduction of the GST, these are to be incorporated into the Reference Tariff calculations as discussed on page 177 of this Draft Decision. Nevertheless, to provide for any further changes to taxation that have a significant impact on the costs of the pipeline, Amendment 28 below requires a trigger to be included in the Access Arrangement. Amendment 28 also requires triggers to be included in the event that changes in throughput or to regulations have a significant impact on the costs of the pipeline.

4.8.4 Additional Considerations of the Regulator

Revisions Submission Date

The proposal by GGT meets the requirements of the Code in terms of the Revisions Commencement Date. However, as the proposed Access Arrangement is for a period of 5 years after the Effective Date, the Access Arrangement Period is therefore expected to extend beyond 31 December 2004. The Access Arrangement Information therefore needs to be expanded to include all relevant data for the years covered by the Access Arrangement Period including those extending beyond 31 December 2004.

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

Amendment 26

The Access Arrangement Information should be amended to include all relevant data for the years covered by the Access Arrangement Period including those extending beyond 31 December 2004.

In view of regulatory experience throughout Australia, the Regulator is of the opinion that a six-month period is inadequate for an assessment of the type envisaged and will require that the Revisions Submission Date be brought forward to allow a nine-month period for assessment.

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

Amendment 27

Clause 3.2 of the proposed Access Arrangement should be amended to provide for a Revisions Submission Date that is four years and three months after the Effective Date.

Trigger Mechanisms

Section 3.17(b)(ii) of the Code empowers the Regulator to require that specific major events be defined that trigger an obligation on the Service Provider to submit revisions prior to the Revisions Submission Date. The Regulator is not otherwise able to require a review of the Access Arrangement prior to the Revisions Submission Date.

The Regulator gave detailed consideration to the specification of trigger mechanisms in the Access Arrangement for the AlintaGas Mid-West and South-West Gas Distribution Systems[8]. In particular, attention was given to:

- whether or not the Regulator can reserve discretion as to whether a review of an Access Arrangement should proceed once a defined trigger event occurs; and
- what specific major events within the meaning of section 3.17 of the Code are appropriate to trigger an obligation on the Service Provider to submit revisions to the Access Arrangement prior to the Revisions Submission Date.

On the basis of legal advice that section 3.17 of the Code does not expressly give the Regulator any discretion as to whether a review should proceed once a defined trigger event occurs[9], the Regulator considered it appropriate to adopt a more tightly defined set of triggers than would have been necessary had discretion to trigger a review been available to the Regulator.

Having regard to the objectives for design of Reference Tariffs and a Reference Tariff Policy as set out in section 8.1 of the Code, the Regulator considers that a review of an Access Arrangement should only be triggered where it is justified by the potential benefits from such a review. The following major events listed are of a type that could justify a review for the purposes of section 3.17 of the Code:

- realised quantities of gas throughput significantly exceeding forecast quantities that were the basis for determining Reference Tariffs;
- significant changes in taxation liabilities of the Service Provider arising from a change in law; and
- significant changes in costs to the Service Provider arising from changes in regulatory arrangements affecting the provision of services.

In determining an appropriate difference between realised and forecast quantities of gas throughput for the triggering of a review of the Access Arrangement, it is appropriate to take into account the objectives that Reference Tariffs:

- replicate the outcome of a competitive market (section 8.1(b) of the Code); and
- provide an incentive to the Service Provider to reduce costs and to develop the market for Reference and other services (section 8.1(f) of the Code).

[8] AlintaGas Mid-West and South-West Gas Distribution Systems Final Decision 30 June 2000, pp 62-67.

[9] Once events have been defined as 'specific major events' for the purposes of section 3.17 of the Code, their occurrence will oblige the Service Provider to submit revisions to the Access Arrangement in accordance with section 2.28 of the Code. The Regulator is then required to conduct a review in accordance with Part 2 of the Code.

In a competitive market, it is likely that reductions in unit costs for a service such as gas transmission would be passed on to consumers in lower unit prices. However, in permitting a Service Provider to retain the benefits of increased throughput above forecast levels during an Access Arrangement Period provides the Service Provider an incentive to market the services of the pipeline and improve the utilisation of the pipeline. The benefits from increased throughput (through lower unit costs) would then be extended to Users in the next Access Arrangement Period.

While a Service Provider is free to arrange for a review of its Access Arrangement at any time, the Regulator needs to ensure that the net benefits of triggering a review outweigh its costs. This requires that triggers for the review of an Access Arrangement be carefully considered before being required to be included by the Regulator in an Access Arrangement.

On balance, the Regulator considers that a review of the Access Arrangement for the Goldfields Gas Pipeline should be triggered by the following events:

- Throughput exceeding the forecast throughput by 25 percent or more.

  The Regulator notes that the underlying purpose of a trigger event based on realised throughput is to ensure a sharing between the Service Provider and Users of the benefits of increased revenues and profits, above some threshold level. A trigger event on throughput may not completely capture the increases in revenues. For example, if increases in throughput do not occur with the same proportional spread across services and tariff components as assumed for calculation of the Reference Tariffs, then a 25 percent increase in throughput could conceivably give rise to a greater or lower proportional rise in revenues. Given this, a trigger event based on revenue may be more appropriate. However, a trigger event based on throughput has the advantages of being more readily observable and at an earlier date. On this basis, the Regulator favours the use of a trigger event based on throughput for the current Access Arrangement Period, but would propose that the appropriateness of this approach be re-examine when the Access Arrangement is reviewed.

  The design of a trigger mechanism that is consistent with the objectives of an incentive mechanism, as set out in section 8.46 of the Code, should also avoid providing an artificial incentive to favour the sale of one service over another (section 8.46(a)). This requires a trigger event based on total throughput as distinct from one that is related to throughput under Reference Services alone. Otherwise, an incentive would be created for the Service Provider to promote Non-Reference Services rather than Reference Services so as to avoid a review of the Access Arrangement and a likely reduction in Reference Tariffs.

  Other recent decisions issued by the Regulator,[10] the ACCC[11] and IPART[12] have also required a throughput variation trigger. Under the circumstances it is considered reasonable that, if throughput increases to a level of greater than 125% of the forecast throughput, the Access Arrangement should be reviewed.

[10] Final Decision, AlintaGas Mid West and South West Gas Distribution Systems

[11] Draft Decision, Central West Pipeline (NSW)

[12] Draft Decision, AGL Gas Network (NSW)

- Changes in taxation or regulatory arrangements implemented at the State or National level that have a significant impact on the costs justifying a review of the Access Arrangement.

  In considering the events to trigger a review in response to changes in taxation and changes in regulatory arrangement, a primary consideration is the objective set out in section 8.1(b) of the Code that Reference Tariffs should replicate the outcome of a competitive market, which would see any cost reductions from changes in taxation or regulatory arrangements passed through to consumers in lower prices. However, the Regulator also took into account that as these changes in costs may only be passed through to changes in Reference Tariffs by way of a review of the Access Arrangement, the changes in costs to trigger a review must be of a sufficiently high magnitude that the benefits of review of the Access Arrangement, and reductions to Reference Tariffs should exceed the costs of a review. The Regulator concluded that an appropriate magnitude of a change in total costs would be 5 percent of forecast revenue.

Consideration has also been given to the time period allowed for GGT to submit revisions to the Access Arrangement after a trigger event has occurred. A period of three months is considered appropriate as this period is consistent with the requirements of section 2.2 of the Code which requires a Service Provider to submit an Access Arrangement to the Regulator within 90 days after a pipeline has become covered under the Code.

The following amendment is required before the proposed Access Arrangement is approved.

Amendment 28

Clause 3 of the proposed Access Arrangement (Term and Review) should be amended to specify that GGT will submit revisions of the Access Arrangement to the Regulator:

- by 31 March in any year of the Access Arrangement Period, if the quantity of gas delivered to all Users in the preceding calendar year exceeded the forecast delivered volume for that year by 25 percent or more.
- within three months of the day on which a change in regulation that arises from a change in law takes effect, or the day on which it becomes sufficiently certain that the change will take effect, whichever is earlier, that has the effect of reducing the costs that GGT is required to pay, or is likely to be required to pay, in the subsequent calendar year of the Access Arrangement Period in relation to its supply of one or more services by an amount of 5 percent or more of the Total Revenue for that calendar year; and
- within three months of a change in taxation that arises from a change in law takes effect, or the day on which it becomes sufficiently certain that the change will take effect, whichever is earlier, that has the effect of reducing the costs that GGT is required to pay, or is likely to be required to pay, in the subsequent calendar year of the Access Arrangement Period in relation to its supply of one or more services by an amount of 5 percent or more of the Total Revenue for that calendar year.

For the purposes of the trigger events relating to regulatory or taxation changes, the time at which it is sufficiently certain that a change will take effect is the time the change receives royal assent or otherwise has the force of law.

Pass On of Taxes and Other Government Charges

In clause 9.9 of the Access Arrangement GT&C, GGT proposes that all taxes, duties, imposts, levies or other charges (excluding income tax) imposed by Government together with any increases in these charges would be passed on to Users when such charges are incurred by GGT or the owners in respect of any service provided pursuant to the Service Agreement.

Clause 9.11 of the Access Arrangement GT&C addresses the issue of GST specifically. It states that any increases in charges due to GST (or changes in GST) will be passed on to Users. It also states that, should changes in the income tax regime associated with the GST result in lower costs for GGT, the benefits of these lower costs will also be passed on to Users proportionately.

On the basis of legal advice that was obtained in relation to the AlintaGas Mid-West and South-West Gas Distribution Systems, the Regulator is of the view that the Code does not currently provide for changes to Reference Tariffs other than by a review of the Access Arrangement, or in accordance with provisions for change that may be included in the Reference Tariff Policy under section 8.3 of the Code.

It is therefore considered that clauses 9.9 and 9.11 of the GT&C of the proposed Access Arrangement should be amended to comply with section 2 of the Code.

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

Amendment 29

Clauses 9.9 and 9.11 of the GT&C of the proposed Access Arrangement should be amended to require that if any taxes, duties, imposts, levies or other charges (excluding income tax) are imposed by Government or if there are any increases in such charges then these can only be passed on to Users in accordance with the provisions for review of an Access Arrangement as provided for by section 2 of the Code.

4.9 OTHER MATTERS

4.9.1 Access Code Requirements

Section 2.24 of the Code requires that an Access Arrangement contain the elements and satisfy the principles set out in sections 3.1 to 3.20 of the Code. An Access Arrangement may, however, address matters or provide information beyond the requirements of sections 3.1 to 3.20 of the Code. In addition, submissions may raise matters additional to those set out in sections 3.1 to 3.20 of the Code which need to be addressed by the Regulator in assessing the proposed Access Arrangement.

The Regulator must 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 of the

Code 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 is required to take the factors listed in section 2.24 of the Code into account.[13]

(a) the Service Provider's legitimate business interests and investment in the Covered Pipeline;

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

(c) the operational and technical requirements necessary for the safe and reliable operation of the Covered Pipeline;

(d) the economically efficient operation of the Covered Pipeline;

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

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

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

4.9.2 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. These are covered in clause 6 of the Access Arrangement.

The steps to be followed are outlined as follows:

1. The Prospective User completes an Enquiry Form outlining the amount of gas required, number of outlet points and other information related to the User.

2. Within 15 business days of receiving the Enquiry Form, GGT provides the Prospective User with an assessment of the availability to meet capacity to satisfy the request for Service, including a statement of Spare Capacity and Developable Capacity and the various tariffs and charges that will apply.

3. If the Prospective User wishes to proceed, the Prospective User is required to complete and return an Order Form within 10 business days, containing a repeat of the information required in the Enquiry Form, any requirements which have changed and the tariff and charge components advised by GGT that will apply.

4. Within 30 business days of receiving the Order Form GGT is required to advise the Prospective User whether Spare Capacity exists or provide details relating to Developable Capacity or investigations if these are required.

5. Subject to conditions detailed in clauses 6.5 to 6.7 of the Access Arrangement, GGT must accept the completed Order Form. These clauses include conditions precedent that sufficient spare capacity is available or if not, it is technically and economically feasible to develop spare capacity and that the Prospective User has indicated its

[13] Section 2.24 of the Code is reproduced on page 21 of this Draft Decision.

preparedness to devote reasonable costs towards investigations and Developable Capacity.

6. If in the reasonable opinion of the GGT the Order Form does not comply then GGT must give the Prospective User, within 14 days, a notice of non-compliance including reasonable details and information regarding the non-compliance.

7. If GGT issues a notice of non-compliance, the Prospective User may within 30 days issue a notice that it will amend its Order Form, or else it will lose its priority for capacity.

8. If the Order Form complies, GGT can make a decision relating to the provision of service. Within 14 days of making the decision, GGT must deliver to the User a Service Agreement, together with the likely Commencement Date.

Users may request an increase in MDQ or a term extension to the Service Agreement at any time after the Commencement Date by writing to GGT. Any such request is treated as a new Order Form by the GGT.

The User may also seek variations to the General Terms and Conditions applicable to the Reference Service, but such variations would constitute a Negotiated Service, with the terms of the agreement to be negotiated in good faith.

4.9.3 Submissions from Interested Parties

Request for Information by the Service Provider

- WMC Resources

  WMC notes that, in the case of the OffGAR Draft Decision on the Parmelia Pipeline, OffGAR examined the Terms and Conditions in great detail to eliminate the scope for arbitrary decisions by the proponent and ensure that the details were acceptable. WMC believes that the same process needs to be followed in this case as well.

  We suggest in particular that there is scope for:

  - reducing the scope for the proponent to request additional information in an Access Request;
  - …
  - eliminating the scope for the proponent to add arbitrary or additional requirements between Access Undertaking approvals. It is OffGAR, rather than the proponent, who is best able to judge whether the proposed changes detract or otherwise from the reference services.
  - …

The submission raises a concern that GGT may be able to request additional information, or add arbitrary requirements between an access request and an approval. Information requirements relating to an enquiry for service are very specific and defined in clause 6.1 of the Access Arrangement. Following an enquiry for service and GGT's response to the Enquiry Form, a Prospective User must complete an Order Form. The Order Form repeats the information required on the enquiry for service form (along with any changes in particulars which have occurred in the intervening time) and contains all the particulars and tariff components contained within GGT's response to the enquiry. There is no scope within

the Order Form for additional information to be required and approval is based upon the completed Order Form.

The Regulator has assessed the information requirements and considers these to be reasonable. Therefore, no amendment is sought to the Access Arrangement. However, it should be noted that the requirements of a Service Provider for information from a Prospective User must be described in the Information Package that the Service Provider is required to make available in accordance with sections 5.1 to 5.3 of the Code.

Disclosure of Information

- AlintaGas

  GGT proposes as part of its "application for service" section that it may require the prospective user to keep confidential any information GGT discloses to the prospective user through the course of the application for service, and may require that the obligation of confidentiality be a condition precedent to negotiations. This requirement is drafted very broadly. AlintaGas submits that it should not be used to stifle either negotiations or arbitrations between a prospective user and GGT. AlintaGas requests the Regulator to consider the practical implications of this clause.

Clause 6.12 of the Access Arrangement states that GGT may require a Prospective User to keep confidential any information disclosed in the course of negotiations relating to an application form as a precondition to negotiations.

The Regulator agrees that clause 6.12 could potentially have implications for the necessary disclosure of information to an Arbitrator, Regulator or Court of Law. However, the Regulator is mindful of the need for certain information that is harmful to the legitimate business interests of a party to be kept confidential. Prospective Users may therefore be required by the GGT to keep certain information confidential, but the Access Arrangement should not restrict a Prospective User from making such information available to the Arbitrator, the Regulator or a Court of Law.

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

Amendment 30

Clause 6.12 of the proposed Access Arrangement should be amended so that information disclosed by GGT to a Prospective User in the course of an application for a service may be disclosed by the Prospective User to the Arbitrator, the Regulator or a Court of Law.

Ring Fencing

Service Providers are required by section 4 of the Code to comply with minimum ring fencing obligations. In addition, section 7.1 of the Code requires that a Service Provider must not enter into an Associate Contract without first obtaining the approval of the Regulator:

7.1 A Service Provider must not enter into an Associate Contract without first obtaining the approval of the Relevant Regulator. The Relevant Regulator must not refuse to approve a proposed Associate Contract unless it considers that the contract would have the effect, or would be likely to have the effect, of substantially lessening, preventing or hindering competition in a market.

✎ Treasury, Office of Energy and Department of Resources Development

It is noted that:

- Southern Cross Energy owns and operates 160MW of electricity generation infrastructure at Mount Keith, Leinster, Kambalda and Kalgoorlie.
- TransAlta owns and operates 120MW of electricity generation at Parkeston
- Duke Energy owns and operates 115MW of electricity generation infrastructure at Newman; and
- APL is also part owner and operator of 14MW of electricity generation infrastructure at the Cawse mine.

The Code places certain requirements upon service providers in relation to ring fencing and the Regulator should satisfy himself that these have been met.

GGT advised in August 1999, that it believed that it complied with all of the ring fencing requirements of the Code.

Key Performance Indicators

Category 6 of Attachment A to the Code requires the inclusion of Key Performance Indicators in an Access Arrangement Information for a Covered pipeline:

> Category 6: Information Regarding Key Performance Indicators
>
> Industry KPIs used by the Service Provider to justify "reasonably incurred" costs
>
> Service provider's KPIs for each pricing zone, service or category of asset

✎ North West Shelf Gas

The Code requires that a pipeline owner include relevant benchmark comparisons of relevant performance indicators for the pipeline proposed to be covered by the AA and other on-shore gas pipelines. GGT's treatment of this area is very limited and we request that the Regulator publish (or require GGT to publish), sufficient relevant benchmark performance indicator comparisons so that a reasonable view of the competitiveness or otherwise of the proposed tariffs may be formed by interested parties.

✎ Anaconda Nickel Ltd

The amount of benchmarking carried out by the GGTJV was minimal. Some of the benchmark data which should have been provided is:

- Capital Cost comparisons
- Operating Cost comparisons
- Tariff comparisons
- Unaccounted for gas
- Gas sold per kilometre of main
- O&M costs per customer
- Unplanned interruptions

A previous review by Grant Samuel indicated that the GGP tariffs were the highest in the world. The Independent Pricing and Regulatory Tribunal (IPART) commissioned a research paper to benchmark

> the efficiency of Australian Gas Distributors. This report detailed various performance indicators which can be used. The Regulator should prescribe some performance indicators to ensure GGTJV are performing adequately and at "best practice" level.
>
> The inability of GGT to obtain information on the Key Performance Indicators and their reticence to supply and use real data indicates they may not be operating at world's best practice. It also brings into question their commitment to making the tariff calculations transparent.

While work is still progressing in Australia toward the development of appropriate benchmarks for the gas pipeline and other regulated industries,[14] the Regulator considers that the Access Arrangement Information for the Goldfields Gas Pipeline should be amended to include additional information on Performance Indicators. A list of Performance Indicators that should be included for the Access Arrangement Period is as follows:

1. Pipeline maintenance cost ($ per km of pipeline);
2. Compression maintenance cost ($ per MW installed);
3. Compression unit reliability (ratio of out of service hours to total hours);
4. Compressor unit utilisation (ratio of run hours to total hours)
5. Pipeline utilisation (ratio of average throughput to maximum capacity);
6. Capacity reservation utilisation (ratio of average throughput to capacity reservation);
7. Compressor fuel usage (ratio of compressor fuel to throughput);
8. Maintenance cost ratio (ratio of operation and maintenance cost to total operating expenditure excluding fuel);
9. Overhead cost ratio (ratio of overheads to total operating costs excluding fuel);
10. Delivery cost (ratio of total operating costs excluding fuel to total quantity delivered);
11. Gas unaccounted for (volume of gas unaccounted for as a percentage of total delivery); and
12. Delivery disruption (disrupted quantity as a percentage of total MDQ).

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

[14] Two discussion papers on benchmarking and incentive regulation have in recent times been prepared through the Utility Regulators Forum chaired by the ACCC:

(1) ACCC "The role of benchmarking in incentive regulation: An ACCC perspective", 22 July 1999; and

(2) ACCC "Incentive regulation, benchmarking and utility performance", November 2000.

Amendment 31

The Access Arrangement Information should be amended to include the following Key Performance Indicators for the Access Arrangement Period.

1. Pipeline maintenance cost ($ per km of pipeline);
2. Compression maintenance cost ($ per MW installed);
3. Compression unit reliability (ratio of out of service hours to total hours);
4. Compressor unit utilisation (ratio of run hours to total hours)
5. Pipeline utilisation (ratio of average throughput to maximum capacity);
6. Capacity reservation utilisation (ratio of average throughput to capacity reservation);
7. Compressor fuel usage (ratio of compressor fuel to throughput);
8. Maintenance cost ratio (ratio of operation and maintenance cost to total operating expenditure excluding fuel);
9. Overhead cost ratio (ratio of overheads to total operating costs excluding fuel);
10. Delivery cost (ratio of total operating costs excluding fuel to total quantity delivered);
11. Gas unaccounted for (volume of gas unaccounted for as a percentage of total delivery); and
12. Delivery disruption (disrupted quantity as a percentage of total MDQ).

5 REFERENCE TARIFFS

5.1 INTRODUCTION

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

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

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

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

8.1 A Reference Tariff and Reference Tariff Policy should be designed with a view to achieving the following objectives:

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

(b) replicating the outcome of a competitive market;

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

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

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

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

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

GGT has proposed a Reference Tariff for a single Reference Service referred to as the firm service.

Section 8 of the Code provides a general procedure for the determination of Reference Tariffs. The steps in this general procedure are:

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

This section provides an assessment of compliance of the proposed Reference Tariff for the firm service with the requirements of the Code. This is undertaken by examining the general methodology used by GGT in determining the Reference Tariff, taking into account the requirements of the Code and submissions from interested parties.

5.2 METHODOLOGY USED TO DETERMINE THE REFERENCE TARIFF

5.2.1 Access Code Requirements

Section 8.3 of the Code provides that the methodology for determination of Reference Tariffs is 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 provides that Reference Tariffs may be determined by:

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

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

(c) variations or combinations of these approaches.

5.2.2 Access Arrangement Proposal

As provided for by section 8.3 of the Code, GGT has nominated a price path methodology for the determination of its Reference Tariff for the firm service.[15] This approach requires that the Reference Tariff be determined in advance for the Access Arrangement Period. The Reference Tariff is intended to follow a path that is forecast to deliver a revenue stream sufficient to cover projected costs of providing the service within the Access Arrangement Period.

The tariff determination methodology chosen by GGT is a Net Present Value approach that yields a Levelised Tariff for the entire Access Arrangement Period. The process of levelising averages the tariff over the Access Arrangement Period accounting for the time value of money. This can be done in real or nominal terms or on some basis that falls between these approaches. The approach taken by GGT is to levelise the firm service Tariff in real (inflation adjusted) terms. The decision to levelise the tariff in real terms requires that the tariff be adjusted by an inflation index to maintain the required rate of return for the Goldfields Gas Pipeline.

5.2.3 Submissions from Interested Parties

There were no submissions from interested parties on the general methodology used to determine Reference Tariffs.

5.2.4 Additional Considerations of the Regulator

The Code provides a Service Provider with discretion in selecting the methodology to be 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 GGT of a price path methodology is consistent with this requirement.

The Access Arrangement is therefore considered to meet the requirements of the Code in respect of the general methodology used for determination of the Reference Tariff.

5.3 FORECAST THROUGHPUT

The throughput forecast projected by GGT has emerged as a major issue in the assessment of the proposed Access Arrangement for the Goldfields Gas Pipeline.

The throughput forecast can impact on the Reference Tariff for the pipeline in three ways:

- in estimating historic depreciation of the pipeline assets for the purposes of determining the Initial Capital Base for the pipeline;
- in the calculation of depreciation during the Access Arrangement Period and the residual value of the Capital Base at the end of the period; and
- in the calculation of tariff rates applicable for the period of the Access Arrangement.

[15] AAI section 7.6.

Given the potential effects of the throughput forecast on the above, the forecast is examined in this section of the Draft Decision prior to discussing, tariff rates, depreciation and the Initial Capital Base.

5.3.1 Access Arrangement Proposal

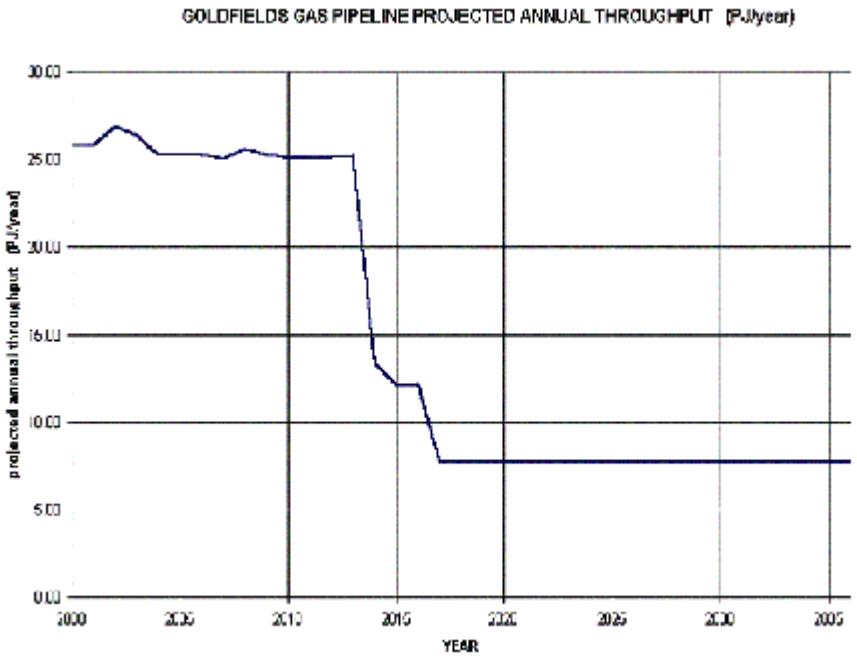
The throughput forecast is mainly discussed in three parts of the Access Arrangement Information for the Goldfields Gas Pipeline. Section 6.2.2 of the Access Arrangement Information details the throughput assumptions for the period of the proposed Access Arrangement. Relevant parts of this section are quoted below. In addition, section 7.5.3.4 of the Access Arrangement Information concerning "Pipeline Utilisation Assumptions" reiterates some of the information presented in section 6.2.2. Finally, Appendix C of the Access Arrangement Information presents long term throughput projections in graphical form which is reproduced below (Figure 1).

Section 6.2.2 of the Access Arrangement Information states that:

> The Goldfields Gas Pipeline currently transports gas on behalf of its owners and five third party users.
>
> For the purposes of this Access Arrangement, future pipeline throughput is assumed to comprise the continuation of all existing transport contracts. No load growth is anticipated during the Access Arrangement period. This assumption is made on the basis of the depressed state of the mining industry and the lack of firm response to the Economic Development Tariff initiative.
>
> During the period of the Access Arrangement, several transport contracts are scheduled to terminate. It has been assumed that these contracts will not be renewed.
>
> For the purposes of tariff determination, an average load factor of 0.72 is assumed. This corresponds to the pipeline's actual operating load factor (i.e. the quotient of average daily throughput and maximum daily throughput) for the 12 month period ending 30 September 1999. This operational value is numerically higher than the contractual load factor (i.e. the quotient of average daily throughput and pipeline reservation) for the same period. As such, the load factor used constitutes a conservative assumption for the purposes of determining the Reference Service tariff.
>
> Existing Goldfields Gas Pipeline gas transport contracts are subject to commercial confidentiality. Further, the pipeline faces competition from both other pipelines and suppliers of alternate fuels, and end users face substantial competition in their own markets. Therefore, in order to protect the interests of pipeline users and GGT it is necessary that future throughput projections be presented in aggregated form.
>
> On an aggregated basis, the Goldfields Gas Pipeline projected future throughput for the duration of the proposed Access Arrangement is as follows:

YEAR	2000	2001	2002	2003	2004
Projected pipeline throughput TJ / d	71	71	74	72	69

Figure 1



Source: Appendix C, Access Arrangement Information, Goldfields Gas Pipeline.

5.3.2 Submissions from Interested Parties

- Hon Mark Nevill MLC

It is improbable that demand in the Goldfields will drop significantly, particularly as technology makes it easier to discover and exploit lower grades of ore. The GGP services and transverses the Hamersley Province (iron ore), the Bangemall Basin (gold) and the Eastern Goldfields Greenstone Belts (gold and nickel sulphides and laterites).

- Wesfarmers CSBP

CSBP is not currently a customer of the GGP. However it holds the rights to a substantial phosphate deposit at Mt Weld, and the fertiliser project could require approximately 15TJ/day of natural gas. It would appear that the highly pessimistic view of future development in the area served by the GGT could become a self-fulfilling prophecy if it is used as the basis for calculating tariffs. While any individual project under study has a clear risk of not proceeding, this is not justification for assuming that no such projects will succeed. A probability based approach may be more reasonable and avoids having to make pre-judgements regarding exactly which development projects will proceed.

- North West Shelf Gas

During the Access Arrangement period North West Shelf Gas believe that there are significant prospects for further load growth… from projects in the iron, nickel and gold industries. Specific examples include:

- Anaconda Murrin Murrin Stage 2;
- Murrin Murrin Stage 3 and Mount Margaret nickel projects;
- The proposed Mount Weld fertiliser project;
- A proposed cobalt refinery at Cawse;
- Proposed conversions of existing diesel powered electricity generation facilities in the gold mining industries.

This gas demand upside may be reflected in part by the higher (than DORC) price paid by the current owners of the GGTP for the pipeline.

North West Shelf Gas

NWSG believe that the statement in the last paragraph of clause 3.1.3 of the AAI …"that there is little prospect for load growth during the Access Arrangement period" and the statement made in clause 6.2.2 of the AAI along the same lines are not borne out by the facts. A far more equitable approach would be for a reasonable forecast of GGT load growth to be determined by the Regulator and have the Reference Tariffs set accordingly. If GGT were able to grow the pipeline load at a faster rate…then the pipeline owners would see a reward for their effort.

WMC Resources

The original developers were prepared to put great weight on the long term development prospects of the extensive mineral provinces through which the pipeline passes.

- In the northern area, world class iron ore reserves exist which have a prospective life of several hundred years. (For example, the Robe River West Angeles deposit).
- In the Northern Goldfields/Mid West area, WMC itself is a major producer of nickel along with others, and major gold mines also exist.
- In the Goldfields area itself, nickel and gold are produced in world scale quantities and at competitive prices. For example, large gold mines, such as the KCGM operation and WMC's operations at Saint Ives and there are also proposals to develop other nickel and gold prospects in the surrounding area and process the ores in Kalgoorlie.

WMC Resources

The submission by GGT is deficient in information on the expected throughput levels past the end of the Access Arrangement period. The missing information needs to be made available as quickly as possible to those making submissions, preferably to allow supplementary submissions to be made prior to OffGAR publishing a Draft Determination.

Anaconda Nickel Ltd

Anaconda has … a number of new projects under consideration …with potential volumes of some 200TJ/day, approximately 220 percent of the pipelines' existing committed throughput.

The following new projects are currently under consideration by companies operating in the area:

- Murrin Murrin Stage 2 Expansion
- Mt. Margaret Ni/Co Project
- Mt. Weld Phosphate Project
- Mt. Weld Rare Earth Projects
- Thunderbox Gold Mine
- Red October Gold Mine
- Sunrise Dam Extension
- Cawse Ni/Co Expansion
- Bulong Expansion
- Granny Smith Wallaby Expansion
- North's West Angeles Project

We do not believe the above list to be exhaustive. It highlights the scale of existing and proposed projects in the region.

Anaconda Nickel Ltd

The GGTJV states that one third of its contracts will expire within five years. This statement does not reflect that greater than 70 percent of the volume is contracted for more than 10 years. Many gold producers operate on time horizons of five years most will continue to operate beyond their five year horizon. All of Anaconda's projects have a lifespan of greater than 30 years with reserves offering potential life-spans of up to 50 years. Its commitments, therefore, are likely to be greater than 16 years, unless the Geraldton to Mount Margaret pipeline proves a more attractive option. Overall the lack of long term contracts does not give a meaningful indicator of project risk.

Anaconda Nickel Ltd

It is difficult to understand why the GGTJV are surprised that they have no contracts in excess of 20 years. The GGP tariff structure shows the longest period offered as a Reference Service is 16-20 years. There is no benefit to contract for 20 years. Anaconda may well have contracted for 21 years if a reduced tariff was available.

Normandy Mining Ltd

Normandy accepts that the GGT pipeline does have some characteristics which make it more risky than pipelines feeding large settled urban areas, but Normandy cannot agree with the forcefulness of the arguments raised by the proponents. While being aware of the difficulty of securing very long term contracts for the use of pipeline capacity, the original developers were prepared to place great weight on the long term development prospects of the extensive mineral provinces through which the pipeline passes. GGT appear to ignore the possibility of expanding the pipeline capacity that is essential to get current and new customers. GGT also fail to recognise the future growth that will arise in gas transport, as the benefits of gas, as a low greenhouse gas emitters. The overall outlook that has been painted by GGT for the pipeline is, in Normandy's opinion, rather pessimistic.

Treasury, Office of Energy and Department of Resources

In conducting his analysis [on risk], the Regulator may wish to consider the following issues in addition to the matters raised by the GGT:

- …
- The forecast throughput appears to be conservative. It is suggested that the Regulator conduct a review of throughput forecasts the proposed tariff.

✎ The Chamber of Minerals and Energy

The lack of long term contracts does not necessarily translate into a high degree of risk. What is relevant is the extent to which customers will be willing and able to demand services into the future.

✎ AlintaGas

AlintaGas considers it unusual for a user to contract for pipeline capacity for a term in excess of 20 years. In AlintaGas's view, the lack of long term contracts does not mean that the GGP has a limited commercial life, or that it faces significant commercial risk beyond the terms of its current access contracts.

✎ Hon Mark Nevill MLC

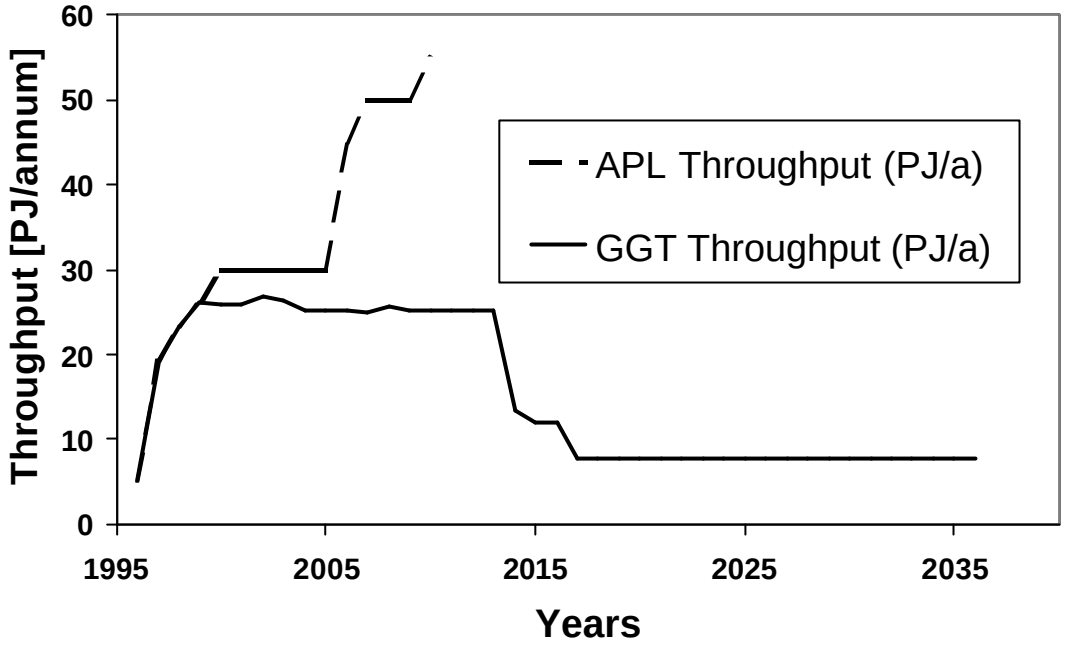
Gas contracts overseas have shortened significantly over the past decade. In the USA, a contract of 2 years duration is now considered a long term contract.

The above submissions from interested parties express considerable optimism about the future demand for gas transmission services for the Goldfields Gas Pipeline. These views are in contrast to the subdued outlook by GGT as illustrated in its graph shown in Appendix C of its Access Arrangement Information and reproduced in Figure 1 above. GGT's assumption relating to the renewal of existing contracts also needs to be considered in the light of possible existing options to extend contract terms beyond 2016.

GGT's forecast throughput for the Goldfields Gas Pipeline has been compared with another forecast by Australian Pipelines Limited (APL). The APL forecast was made public in a prospectus relating to the offering of units in the Australian Pipeline Trust, which included a share of the Goldfields Gas Pipeline assets. This prospectus was issued on 5 May 2000 and indicates a substantially higher throughput forecast than that projected by GGT, particularly after the end of the proposed Access Arrangement Period.[16] As illustrated in Figure 2 below, the throughput forecast proposed by GGT is inconsistent with that published by APL, particularly after 2005.

[16] Australian Pipeline Trust Prospectus "Buried Treasure", Goldfields Gas Pipeline throughput forecast graph for the years 2000 to 2010, page P/37.

Figure 2
Goldfields Gas Pipeline Throughput Projections



Furthermore, the Regulator notes the APL prospectus, which states that:

> The Goldfields Gas Pipeline currently has long term contracts in place with major mining companies including WMC and Normandy. Current contracts account for a total reserved capacity of approximately 26 PJ/A through until 2013.
>
> ACIL considers the risk that these contracts will not be renewed is low. The longer term contracts are all based on supplying energy to projects whose economic lives can reasonably be expected to extend beyond the term of current contracts.[17]

While the views expressed in submissions and the longer term throughput forecast by APL are inconsistent with the GGT forecast, the difference between the GGT and APL forecasts for the period of the Access Arrangement is less significant. For tariff calculation purposes the GGT forecast has been adopted for the period of the proposed Access Arrangement. Additional advice on the throughput forecast is likely to be required before the Regulator issues the Final Decision.

The consequences of the longer term forecast as it impacts on the derivation of the Initial Capital Base, depreciation, the residual value and the calculation of tariffs will be discussed under the relevant sections below.

[17] Australian Pipeline Trust Prospectus "Buried Treasure", Goldfields Gas Pipeline throughput forecast graph for the years 2000 to 2010, page P/37

5.4 INITIAL CAPITAL BASE

5.4.1 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 Goldfields Gas Pipeline.

The Code requires that the Regulator, in determining the Initial Capital Base for a pipeline, give consideration to the matters set down in sections 8.10(a) to 8.10(k) of the Code. Discussion of each of these matters in relation to the determination of the Initial Capital Base is undertaken below. In a general way these matters relate to:

- the comparative analysis of different valuation techniques;
- the reasonable expectations of interested parties; and
- the economically efficient utilisation of gas resources.

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:

(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;[18] and

(b) the value that would result from applying the "depreciated optimised replacement cost" methodology in valuing the Covered Pipeline.

5.4.2 Access Arrangement Proposal

GGT's determination of the Initial Capital Base is described in section 4.5 of the Access Arrangement Information. Sections 4.1 to 4.4 of the Access Arrangement Information provide background information in support of this determination of the Initial Capital Base.

GGT has proposed that the Initial Capital Base for the Goldfields Gas Pipeline should be based on a DORC valuation and be valued at $452.6 million including other capital ($3.8 million less $0.4 depreciation) and working capital ($2.6 million).

The DORC value put forward by GGT is not a conventional DORC valuation, but rather is a Depreciated Adjusted Historical Cost. The methodology used by GGT to derive the Depreciated Adjusted Historical Cost was to adjust the actual construction cost of the pipeline by inflation, interest cost incurred during construction, foreign exchange variations and then depreciating the resulting value. The use of this approach was predicated on the view that the pipeline was constructed to industry best practice standards and that no significant technological change has occurred which could significantly vary pipeline construction costs since the time of actual construction.

[18] This value, which is given in section 8.10(a) of the Code, is for the purposes of this Draft Decision referred to as the Depreciated Actual Cost (DAC).

5.4.3 Matters to be Considered in Determining the Initial Capital Base

5.4.3.1 Valuation Based On Actual Cost

Section 8.10(a) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (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;

The value that would result from taking the actual capital cost of the Covered Pipeline and subtracting the accumulated depreciation for those assets is, for the purposes of the Draft Decision, referred to as the Depreciated Actual Cost. The term "actual capital cost" is not defined in the Code and its meaning is therefore open to interpretation. GGT interpreted the term in two ways and provided a valuation for each:[19]

1. a valuation based on the construction cost to the original owners of $456.6 million; and

2. a valuation based on the 1999 sale price to the current owners of approximately $624 million.

Submissions from Interested Parties

- Hon Mark Nevill MLC

  The "actual cost" of the Goldfields Gas Pipeline was $456 million, well below the purchase price of $624 million. Although the purchase price is not used to calculate the Initial Capital Base, it should not include any other assets such as the WMC power stations.

  The Depreciated Actual Cost (DAC) should be depreciated over 3.5 years since the pipeline was completed. If the whole asset is depreciated over 65 years, the amount of depreciation would be about $24.5 million. Therefore the DAC would be about $431.5 million.

  The Gas Access Regulator should look at the relevance under the Gas Code of the use of infrastructure bonds for financing and see whether the DAC was actually below $431.5 million, as a $50 million "profit" on infrastructure bonds was booked by the initial Joint Venturers.

- Anaconda Nickel Ltd

  The asset was also initially financed through the usage of Infrastructure Bonds, a tax effective bond (now defunct) specific to infrastructure assets, which had the effect of lowering the effective interest rate of the pipeline by up to 50%. This I-bond effect was taken by both WMC and Normandy as an extraordinary profit in their accounts, with no benefit passed onto the end users.

- Anaconda Nickel Ltd

  We do not accept the purchase price of $624 million as the basis for the DAC and would seek more detail, specifically a break down of the components of the purchase price… The value of $624 million is not an appropriate value for one boundary of the initial capital base. The actual book value of the current asset is a more accurate DAC than that used by the GGTJV.

[19] AAI section 4.1.2

- AlintaGas

> AlintaGas does not agree with GGT's DAC valuation… The price paid by various companies for the GGT in 1999 are subjective valuations made by each purchaser. The purchase price is likely to include factors that each purchaser considers will justify the payment of a price above the DAC valuation. Strategic benefits… and growth potential are two such factors. The purchase price should have no role in the determination of a DAC valuation. The DAC is determined from a knowledge of the actual construction cost of the GGT pipeline and the use of an appropriate depreciation schedule.

One of the main issues raised in submissions is that the price purportedly paid for the Goldfields Gas Pipeline by the current owners of $624 million is not a Depreciated Actual Cost valuation as claimed by GGT.

The Regulator has interpreted section 8.10(a) of the Code (relating to the Depreciated Actual Cost value) as being a value based on the actual historical cost of the pipeline assets and not the purchase price.

While GGT provided an estimate of the construction cost of the pipeline as being $456.6 million,[20] no information was made available on the accumulated depreciation charged to Users (or thought to have been charged to Users) since the pipeline entered service in 1996. In the absence of this information, the Regulator made an estimate of depreciation in the period between pipeline construction and the date of valuation.

Depreciation may be estimated either as the value of depreciation of the assets for accounting purposes, or as the value of capital recovery through third party tariffs.

Prior to the sale of the Goldfields Gas Pipeline,[21] depreciation for accounting purposes was a matter for each of the joint venturers individually. Records of book depreciation have not therefore been available for the purposes of assessing past depreciation.

The third party tariff for the Goldfields Gas Pipeline was determined under the *Goldfields Gas Pipeline Agreement Act 1994*. While an estimate of the accumulated historical depreciation charged to Users (or thought to have been charged to Users) could be based on the value of capital recovery through the third party tariff, this would require information on the amount of depreciation provided for in the tariff. However, information on the value of capital recovery through the third party tariff has also not been available.

In addition, the third party tariff did not apply to the original owners of the pipeline and as these accounted for the majority of both reserved capacity on the pipeline and throughput the amount of depreciation attributed to third party users can be considered insignificant.[22]

In view of the difficulties of:

- estimating past depreciation on the basis of either past accounting depreciation or recovery of capital from the third party tariff; and

[20] AAI section 4.1.2.

[21] The Goldfields Gas Pipeline was sold in the period December 1998 to March 1999.

[22] Subclause 8(1) of the State Agreement Act provides that:

> …The Joint Venturers shall not be obliged to charge each other or to pay tariffs for such access or for transmission services in respect of such gas and, subject to this Agreement, may make such contractual arrangements between themselves in relation thereto as they see fit…

- determining an appropriate depreciation methodology because of inconsistencies in throughput forecasts as discussed in section 5.3 above,

the Regulator considers that historical depreciation by a straight line methodology over an assumed asset life of 65 years is appropriate in the circumstances. This approach gives a depreciation value of $25.0 million and a corresponding Depreciated Actual Cost of $435.4 million as at 31 December 1999 (Table 6).

Included in the Depreciated Actual Cost value are the following additional items of capital expenditure (other capital) listed in the Access Arrangement Information:[23]

- emergency response equipment;
- office fit-out and furniture;
- miscellaneous plant and equipment; and
- off-take facilities.

The value of these items is $3.8 million, which after depreciation is $2.7 million assuming straight line depreciation.[24]

Table 6
Depreciated Actual Cost as at 31 December 1999
(31 December 1999 Dollars)

Description	$Million
Actual Cost	456.6
Other Capital	3.8
Estimated Depreciation*	-25.0
Depreciated Actual Cost	**$435.4**

* Based on straight line depreciation.

GGT has submitted that the units of production methodology is an appropriate methodology for the Goldfields Gas Pipeline as it matches the profile of capital recovery to the profile of revenue received over time and thereby overcomes a difficulty of straight line depreciation which assumes that revenue, and hence the opportunity to recover capital, is evenly distributed over the life of the asset. For the purposes of determining the Reference Tariff for the Access Arrangement Period, GGT used a units of production methodology based on the throughput projection indicated in Appendix C of the Access Arrangement Information (Figure 1) and a proposed asset life of 42 years.

[23] AAI section 4.1.3.2.

[24] The depreciated value of the additional items of capital expenditure differs from the GGT estimate of $3.4 million because of differences in the assumed depreciation methodology. GGT used the units of production methodology whereas the methodology used in this case is the straight line methodology based on a 65 year asset life.

Under GGT's assumptions as to future throughput that declines over time, the units of production methodology gives rise to an accelerated depreciation schedule, i.e. depreciation is skewed towards earlier years of asset life. In view of the inconsistencies between the GGT and APL throughput forecasts and taking into account the issues raised in submissions, (section 5.3.2 above), the Regulator considers that GGT has not demonstrated that accelerated depreciation is appropriate in this case.

As a result, the Regulator does not consider that the units of production methodology of depreciation provides a reasonable basis for assumptions as to historical depreciation. Rather, the Regulator considers that a straight line depreciation methodology is an appropriate assumption as to historical depreciation for the purpose of determining the Initial Capital Base that is consistent with what would have been reasonable expectations of future use of the assets since the time of construction.

Infrastructure Bonds

The submission from Hon Mark Nevill MLC suggests that the Regulator should look at the relevance under the Code of the use of infrastructure bonds for financing and see whether the Depreciated Actual Cost value should be reduced to allow for the benefits to the original asset owners of a $50 million "profit" on infrastructure bonds.

Infrastructure bonds were designed to benefit infrastructure developers by providing lower cost financing. The effect of the bonds was to transfer tax deductions from projects that would be in a tax loss position to investors that could access those deductions immediately. The scheme was, however, closed to new projects from 14 February 1997 and replaced by the Infrastructure Borrowings Tax Offset Scheme in 1998.

The methodology used by regulators for determining the Initial Capital Base of a pipeline under the Code would generally not take into account investment allowances provided by governments unless the government that provided the allowances explicitly intended that such allowances should be available for the benefit of Users. The approach that has been adopted by regulators has based Reference Tariffs on pre-tax cash flows and rates of return that do not account for the specific tax position of particular pipeline service providers. Section 8.31 of the Code, for example, states that:

> 8.31
>
> …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. …

This has generally been interpreted to mean that the derivation of Reference Tariffs would not take into account company specific taxation arrangements, but only those relating to standard industry practice.

In part, the need to adopt standard industry practice in relation to financing arrangements is attributable to the difficulty of establishing a reasonable estimate of effective tax rates as distinct from the statutory rate currently 34 percent and declining to 30 percent on 1 July 2001. Investment allowances and accelerated depreciation have therefore not been taken into account in past assessments of Access Arrangements. While the ACCC is giving consideration to the introduction of effective tax rates, this would still be on the basis of standard industry structures and not company specific tax rates. Hence specific allowances

such as infrastructure bonds would not be taken into account in determining the Initial Capital Base unless these were applicable to standard pipeline service providers.

In addition to the "in principle" concern of factoring company specific taxation arrangements into the determination of the Initial Capital Base, it is also necessary to recognise that to do so involves a certain degree of retrospectivity. The question of retrospectivity is further complicated because the Goldfields Gas Pipeline has changed ownership and it is not clear that any benefits of infrastructure bonds have been transferred to the new owners. In general, the Code does not intend the retrospective application of its provisions. This intent is indicated by section 2.25 of the Code.

The Regulator therefore considers that, to be consistent with sections 2.25 and 8.31 of the Code, it would be inappropriate to take infrastructure bonds that may have been available to the original owners of the Goldfields Gas Pipeline into account in determining the Initial Capital Base.

5.4.3.2 Depreciated Optimised Replacement Cost (DORC)

Section 8.10(b) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (b) the value that would result from applying the "depreciated optimised replacement cost" methodology in valuing the Covered Pipeline;

A DORC value is the estimated cost of replacing the service potential of an asset in an optimal manner. Such a value is calculated by deriving the Optimised Replacement Cost, which is based on the latest technology and construction methods, to replace the service potential of an asset. If the asset has been in existence for a period of time, the Optimised Replacement Cost is depreciated to take into account that the remaining economic life of the asset (and hence the service potential of that asset) is less than that for a new asset.

GGT proposed that the Goldfields Gas Pipeline be valued on the basis of a DORC value which it estimated using a Depreciated Adjusted Historical Cost (DAHC) methodology rather than being calculated from an Optimised Replacement Cost.

The Adjusted Historical Cost valuation of $506.7 million proposed by GGT was derived by escalating the historical construction cost of the pipeline to account for inflation, interest cost incurred during construction and movements in foreign exchange rates. After allowing for depreciation and other capital expenditure since construction of $3.8 million, a Depreciated Adjusted Historical Cost valuation of $450.0 million was derived. The Adjusted Historical Cost and other capital expenditure were depreciated on the basis of a units of production method of depreciation over 42 years to give the Depreciated Adjusted Historical Cost value (Table 7).

Table 7
Depreciated Adjusted Historical Cost
(31 December 1999 Dollars)

Description	$ Million
Estimated Adjusted Historical Cost	506.7
Other Capital	3.8
Estimated Depreciation	-60.5
Depreciated Adjusted Historical Cost	**450.0**

Submissions from Interested Parties

Concerns were expressed in several submissions over the use by GGT of a Depreciated Adjusted Historical Cost valuation to represent a DORC valuation, and the calculation of this value.

- Hon Mark Nevill MLC

  In the calculation of the Optimised Replacement Cost, the starting point is the construction cost of $456 million. To this is added upward adjustment of $50.7 million comprised of three factors "claimed" to have increased the optimised replacement cost of the pipeline,… US dollar-Australian dollar exchange rate, interest rates, and escalation in the CPI. The resulting ORC is $506.7 million. These three factors deserve close scrutiny and should be rejected. This whole calculation also ignores that real cost of pipeline construction has been dropping at 8 percent per annum in recent years. It would be surprising if the GGP assets could not be replaced on an optimised basis at less than the actual construction cost.

- Western Power

  Both the DAC and DORC methods have been used,…Western Power believes further investigation into the application of these valuation methods… is warranted. This is due to firstly the "Actual Cost" used in the DAC valuation and secondly, the DORC appears to be the original cost adjusted for forex and inflation which may be more in line with an Inflation Adjusted Historical Cost approach to valuing assets.

- Normandy Mining Ltd

  Normandy agrees with GGT's contention that the pipeline was constructed at a cost that was less than the prevailing length weighted pipeline costs at the time. However, OffGAR will need to check carefully the proposed adjustments once the WACC discount rate and the depreciation policy is settled. Both will have an effect on the Initial Capital Base. In addition, the proposed adjustment for US$/A exchange rates needs careful review, since it may have been possible to procure items of equipment from countries other than the USA. Finally, the starting Capital Base needs to be depreciated to account for the initial three and half years of operation.

- WMC Resources

  WMC agrees with GGT that the pipeline was constructed at a cost that was less than the prevailing length weighted pipeline costs at the time. However, OffGAR will need to check carefully the proposed adjustments once the WACC value and the depreciation policy is settled. Both will have an

effect on the Initial Capital Base. In addition, the proposed adjustment for US$/A exchange rates needs careful consideration, since it may have been possible to have sourced items of equipment from countries other than the USA. Finally, the starting Capital Base needs to be depreciated to account for the initial three and half years of operation of the pipeline.

Treasury, Office of Energy and Department of Resources Development

The methodology which GGT has used to derive its DORC valuation is similar to that which is typically used for the derivation of a DAC valuation. The GGT should be requested to submit a DORC valuation estimated by using more conventional methodology. The upgrade potential of the pipeline may be a relevant consideration in determining such a value… Firstly, the Regulator will need to confirm that it is appropriate for interest charges during construction to be calculated at the proposed WACC of 12.2%. Secondly, he will need to confirm that adjusting all historical costs with 100% of CPI is reasonable.

North West Shelf Gas

We are concerned that the value of DORC proposed may not represent an appropriate value and may result in a higher value for the ICB… In particular, the cost of interest during the construction period of approximately $26.7 million appears to have been calculated using the proposed WACC of 12.2 percent real pre tax. If the Regulator determines that a lower WACC is appropriate then the value of this interest cost during construction will be lower and thus the value of DORC will be lower.

The adjustment of construction costs for CPI should be compared with more specific and relevant indexes. Indeed, present day construction costs may be lower than in 1995 due to the current lower level of local engineering, construction and project activity and the lower (in real terms) cost of major pipeline inputs such as pipe.

A comparison of present day prices for imported inputs may show that the full effect of exchange rate movements is not reflected in present day equipment prices.

In the calculation of the proposed value of DORC, GGT appear to have used a throughput basis (units of production method) to determine the amount of depreciation of the Optimised Replacement Cost to arrive at a value for DORC. Given that the GGP is now said to be operating at full capacity, it may be appropriate to use an alternative depreciation method which would result in a greater amount of depreciation and a lower value of DORC.

Anaconda Nickel Ltd

The GGTJV adjustments in calculating DAC and DORC need to be reviewed with consideration of the following factors.

The foreign exchange adjustments examine the average exchange rate over the construction period and the current rate. Actual data on the exact foreign currency payments should be used for the comparison… The GGTJV have provided insufficient detail on the calculation of interest expense during construction… Actual data must be used for this calculation… It is unclear whether the interest expense has also been indexed by inflation before the final ORC was calculated. The support data for the initial construction cost is not clear about inclusions or exclusions. This data is required to determine if the calculated ORC is appropriate... GGTJV refer to a paper by Venton which identifies weighted average pipeline unit construction costs…We…note the tabulation within the paper of the GGP unit costs as $853/mmkm, some 7% greater than the upper limit identified by Venton.

Anaconda Nickel Ltd

…To that end we requested Worley Engineering consider the issue, and have been advised that in their opinion to duplicate the GGP in today's market would cost $428 million.

- Anaconda Nickel Ltd

  If there was any additional risk to the GGTJV through constructing a larger pipeline than the three participants required, it has now disappeared with the pipeline at full capacity for its current configuration.

  It is generally considered best practice in the pipeline industry to size a pipeline to allow free-flow of the initial base-load. A long line such as the GGP can view this principle slightly differently, but the fact that GGTJV sized the pipeline with two initial compressors suggests that it was never oversized. That Anaconda, when initially considering its Murrin Murrin requirements, was advised that GGTJV required an additional compressor is testimony that the line was probably undersized.

  It needs to be acknowledged that GGT did not eventually require a new compressor station for Murrin Murrin, but this was achieved by reducing some capacity bookings, believed to be those of the then owners.

The main issues raised in submissions are:

- that the Depreciated Adjusted Historical Cost, which is based on original cost and adjusted for movements in foreign exchange, interest cost incurred during construction and inflation, is not a DORC valuation; and
- that the escalation factors used in deriving GGT's capital base value need to be checked including the use of GGT's proposed Weighted Average Cost of Capital (WACC) of 12.2% for calculating interest during construction.

These issues are discussed below.

Depreciated Adjusted Historical Cost as a Proxy Measure of DORC

The use of Depreciated Adjusted Historical Cost as a proxy for a DORC value of the Goldfields Gas Pipeline would only be valid if:

- the current configuration of the pipeline is the same as the optimal design for the delivery of the relevant level of services;
- there has been no significant change in construction costs as a result of technological change; and
- inflation in pipeline construction costs is reasonably approximated by the adjustment of economy-wide inflation and exchange rate variation.

In order to assess the extent to which GGT's Depreciated Actual Historical Cost may approximate a DORC value, the Regulator engaged the services of a technical consultant, Mr Michael Soltyk of Soltyk Engineering Consulting Services to provide estimates of Replacement Cost and Optimised Replacement Cost, and depreciated values for these estimates. In preparing these estimates, the consultant assumed that a replacement system would replicate historical levels of service and support the simultaneous requirements for fully contracted capacity by all Users.

The consultant also gave recognition to historical constraints on design of the pipeline arising from the *Goldfields Gas Pipeline Agreement Act 1994*. Under this Act, the original owners of the pipeline were required to construct a pipeline according to certain specifications. Subclause 9(5) of the Act provides that:

(5) Unless otherwise agreed by the Minister, the initial development of the Pipeline shall be such that its size is the greater of —

(a) a diameter of 400 mm from the commencement of the Pipeline through to Newman thence of 350 mm through to Kalgoorlie; and

(b) such diameter or diameters as are required so that the initial operating capacity of the Pipeline is sufficient to provide for all Initial Committed Capacity,

and such that –

(c) the Pipeline shall be suitable for operation at a pressure of not less than 10,200 kPa; and

(d) the capacity of the Pipeline shall be able to be expanded, by using additional compression, by a minimum of 50 percent of the Initial Committed Capacity.

In view of these constraints on original pipeline design, the consultant estimated a Replacement Cost and Depreciated Replacement Cost based on the specifications set out in the Act (Table 8). This valuation does not take into account any optimisation of pipeline design and construction. The Depreciated Replacement Cost is not therefore a DORC value.

The consultant also estimated Optimised Replacement Cost and DORC values according to a design parameter of the pipeline meeting the service levels required by clause 9(5) of the *Goldfields Gas Pipeline Agreement Act 1994*, but there being no constraints on pipeline diameter or operating pressure (Table 8).

Estimates of Depreciated Replacement Cost and DORC were based on straight line depreciation of asset classes over an assumed economic life for each asset class, corresponding to a weighted average asset life of 65 years.

Table 8
Goldfields Gas Pipeline - Pipeline Cost Estimates

Description	Estimate A	Estimate B
	Depreciated Replacement Cost (DRC)	**Depreciated Optimised Replacement Cost (DORC)**
Maximum Allowable Operating Pressure (MAOP) (Mpa)	10.2	10.2
Diameter (millimetre)	400/350	350
Diameter (inch)	16/14	14
Compressor Stations (Number)	2	3
Design Capacity (TJ/d)[25]	98	98
Compressed Capacity (TJ/d)	170	158
Replacement Cost ($Million) (31 December 1999 Dollars)	450.1	432.0
Depreciated Value ($Million) (31 December 1999 Dollars)	**425.0**	**406.7**

The following observations are made in relation to the asset valuations shown in Table 8.

- The Optimised Replacement Cost of the Goldfields Gas Pipeline ($432.0 million) is $18.1 million less than Replacement Cost ($450.1 million). The main reason for the lower Optimised Replacement Cost value is that it assumes a smaller diameter for the pipeline section to Newman as compared with the existing system compensated for by an additional compressor station providing the same level of service as the larger pipeline section, but at a lower overall cost.
- The Replacement Cost of $450.1 million is close to the reported Actual Cost of construction of the Goldfields Gas Pipeline ($456.6 million).[26] Recognising that the technical consultant's costs are based on a desktop assessment, the difference between Actual and Replacement Costs of $6.5 million is not considered to be material.
- The Depreciated Replacement Cost of $425.0 is $25 million less than GGT's Depreciated Adjusted Historical Cost of $450.0 million. The difference indicates

[25] The initial reserved capacity, as defined by subclause 8(3)(b) of the *Goldfields Gas Pipeline Agreement Act 1994*, was advised by the Department of Resources Development to be 98TJ/d.

[26] AAI section 4.1.3.2

that pipeline construction costs have not escalated at the rates assumed by GGT in determination of the Depreciated Adjusted Historical Cost.

The $25 million difference between the Depreciated Replacement Cost and GGT's Depreciated Adjusted Historical Cost is also in part due to different assumptions as to depreciation. GGT used a units of production depreciation methodology based on a regulatory life of 42 years, whereas the technical consultant used a straight line depreciation methodology over asset lives for different asset classes. This approach results in a weighted average asset life of 65 years.

- The technical consultant was unable to replicate and confirm the price per inch–km figures claimed by GGT due to insufficient information being available on the construction cost of pipeline sections for different diameter sizes. However, as the consultant's estimated Replacement Cost of $450.1 million is not significantly different from the reported Actual Cost of the Goldfields Gas Pipeline of $456.6 million, unit construction costs are also expected to be similar.

Interest During Construction

In deriving a Depreciated Adjusted Historical Cost, GGT took account of the cost of interest during construction. Concerns were expressed in submissions that GGT's assumed WACC for the Access Arrangement Period is not a reasonable basis for estimating this cost. The Regulator considers that, in principle, a relevant WACC value may be used for calculating interest during construction. For the purposes of estimating the Depreciated Replacement Cost (Table 8) and DORC (Table 8) described above, the Regulator's technical consultant assumed an interest rate of 8 percent for calculating interest during construction.

5.4.3.3 Other Well Recognised Asset Valuation Methodologies

Section 8.10(c) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

(c) the value that would result from applying other well recognised asset valuation methodologies in valuing the Covered Pipeline;

Submissions from Interested Parties

There were no submissions on other well recognised asset valuation methodologies.

Additional Considerations of the Regulator

The valuation methodologies that have already been discussed include Depreciated Actual Cost, Depreciated Adjusted Historical Cost, Depreciated Replacement Cost and Depreciated Optimised Replacement Cost.

Another well recognised valuation methodology is Optimised Deprival Value (ODV), which is generally defined as the lesser of the replacement cost of an asset and the net present value of cash flows generated by use of that asset. In a perfectly competitive market for assets, an ODV would be expected to be equal to the maximum value of an asset that would be realised

in a market sale. ODV can also be thought of as the amount that would need to be paid to an asset owner in compensation for being deprived of the asset.[27]

Although an important concept, an ODV valuation of the Goldfields Gas Pipeline was not proposed by GGT nor sought or determined by the Regulator. The matter was also not raised in submissions. As the Goldfields Gas Pipeline is a relatively new pipeline for which Depreciated Actual Cost and DORC values would be expected to be similar an additional valuation, such as by an ODV methodology, was not considered likely to provide significant additional insight into asset valuation.

5.4.3.4 Advantages and Disadvantages of Valuation Methodologies

Section 8.10(d) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (d) the advantages and disadvantages of each valuation methodology applied under paragraphs (a), (b) and (c);

Submissions from Interested Parties

There were no submissions that raised issues on the advantages and disadvantages of valuation methodologies.

Additional Considerations of the Regulator

The different capital base values that have been estimated for the Goldfields Gas Pipeline are summarised in Table 9 below.

[27] If a person is deprived of an asset that person must either bear the cost of forgoing the future cash flows of that asset or build a new replacement asset. The ODV methodology therefore recognises that a person that builds a new asset would be better off than before. The valuation is therefore often corrected to be a Depreciated Optimised Replacement Cost and not simply a Replacement Cost.

Table 9
Value of the Goldfields Gas Pipeline Under Different Asset Valuation Methodologies
(31 December 1999 Dollars)

Asset Valuation Methodology	$Million
GGT's estimated Depreciated Adjusted Historical Cost*, units of production depreciation, GGT throughput forecast, asset life 42 years.	450.0
Regulator's Depreciated Actual Cost, straight line depreciation, asset life by category of asset class (weighted average about 65 years) based on actual cost of construction.	435.4
Regulator's Depreciated Replacement Cost of existing system, straight line depreciation, asset life by category of asset class (weighted average about 65 years).	425.0
Regulator's DORC, straight line depreciation, asset life by category of asset class (weighted average about 65 years), based on an optimisation of the existing system.	406.7

* The Depreciated Adjusted Historical Cost value is referred to by GGT as a DORC value in the Access Arrangement Information[28].

Depreciated Actual Cost

The main advantage of using Depreciated Actual Cost as the basis for valuation of a pipeline is that such a valuation can often be fully supported by audited historical records of initial cost and depreciation, although this was not the case for the Goldfields Gas Pipeline where historical records of depreciation are not available. Furthermore, as a Depreciated Actual Cost valuation would result in the asset owner being compensated through tariffs for the actual capital costs of the pipeline assets, such a valuation is often perceived by pipeline users as being a reasonable valuation.

A disadvantage of Depreciated Actual Cost is that it may not reflect efficient capital costs of pipeline assets at the time of valuation, taking into account such matters as inflation since the time the assets were constructed, changes in pipeline technology, or obsolescence or redundancy of some assets making up the pipeline. A Depreciated Actual Cost valuation is not a forward-looking concept, but is more concerned with what has happened in the past. As noted by the Victorian Office of the Regulator General, assigning a value to the Capital Base on the basis of historical costs and returns has little justification in terms of economic theory, which is concerned with creating the incentives for efficient forward-looking decision making rather than unravelling the past.[29]

These disadvantages of a Depreciated Actual Cost valuation do not, however, apply to any material extent to the Goldfields Gas Pipeline. This pipeline is relatively new and

[28] AAI sections 4.1.3.2 and 4.5.

[29] Office of the Regulator General (Victoria), 1998, Final Decision on the Multinet, Westar and Stratus distribution systems.

construction costs are similar in nominal terms to levels at the time of construction. The main difficulty of using Depreciated Actual Cost for the Goldfields Gas Pipeline is that the actual depreciation charged to Users in the time since the pipeline became operational could not readily be ascertained by the Regulator.

Depreciated Adjusted Historical Cost

A Depreciated Adjusted Historical Cost valuation is relatively easy to calculate where appropriate cost escalators are available.

The Depreciated Adjusted Historical Cost for the Goldfields Gas Pipeline is the highest of all of the values estimated, which is attributable to the application of both economy-wide inflation and exchange rate variations (Table 9). However, no significant inflation in overall construction costs appears to have occurred. This is indicated by the estimated Replacement Cost of $450.1 million being marginally below the Actual Cost of construction of $456.6 million for the Goldfields Gas Pipeline. In addition, the interdependence between economy-wide inflation and exchange rate variations does not appear to have been taken into account by GGT.

The Regulator is therefore unable to accept GGT's estimated Depreciated Adjusted Historical Cost as approximating a Depreciated Replacement Cost or DORC value.

Depreciated Replacement Cost

Depreciated Replacement Cost is an estimate of the cost of replicating an existing asset. As with Depreciated Actual Cost, a Depreciated Replacement Cost may not reflect efficient capital costs of pipeline assets at the time of valuation, taking into account changes in pipeline technology, or obsolescence or redundancy of some assets making up the pipeline. However, the valuation would take into account inflation since the time the assets were constructed and hence provides for asset owners to recover the costs of construction in real terms.

Where there has been little inflation or technological change since the time of pipeline construction, the Depreciated Replacement Cost would be expected to be similar to the Depreciated Actual Cost. This is the case for the Goldfields Gas Pipeline for which the estimate of Depreciated Replacement Cost is $10.4 million less than the estimated Depreciated Actual Cost (Table 9). Of this difference $6.5 million is attributable to a difference in actual as compared to replacement costs and $3.9 million is attributable to a difference in accumulated depreciation arising from different assumptions in respect of the composition of asset classes.

Depreciated Optimised Replacement Cost[30]

A DORC valuation is based on replication of the service potential of the existing pipeline assets using current materials, prices and construction costs (including labour), and optimisation of the design of the pipeline system according to current technological standards and methods of service delivery.

[30] A useful discussion on the advantages of using DORC as the basis for valuing assets is given by the ACCC "Draft Statement of Principles for the Regulation of Transmission Revenues" (1999) pp40-41.

Since a DORC valuation reflects the cost that would apply to an efficient new entrant to a market, the pricing of services based on a DORC value will tend to avoid the creation of economic incentives for inefficient duplication of the pipeline. A DORC valuation therefore reflects the economic cost of providing services that will allow tariffs to be set at efficient levels consistent with long term market equilibrium. Because a DORC valuation involves optimising the pipeline design, it ensures that non-optimal assets are not included in the asset base and are not paid for by Users.

A DORC estimate for the Goldfields Gas Pipeline was prepared by the technical consultant based on current materials, prices and construction costs. This value of $406.7 million (Table 8) is based on an optimisation of the existing pipeline and assumes a smaller diameter for the pipeline section to Newman compensated for by an additional compressor station providing the same level of service as the larger pipeline section, but at a lower overall cost.

There are, however, practical difficulties in arriving at a DORC valuation. A DORC valuation, for example, has some subjective aspects. Judgement is often exercised in determining the extent of optimisation of the hypothetical replacement asset, in particular whether the asset should or should not be constrained to be fundamentally the same as the existing system (for example in terms of route and major design parameters).

Overall, a DORC methodology for valuation has merit as an upper bound for an asset value, based on the consideration that any higher value may, in principle, motivate inefficient duplication of a pipeline. A DORC valuation is also, in principle, more likely than a historical cost valuation to provide the Service Provider with a stream of revenue commensurate with the requirements for long term replacement investment in maintaining the service capacity of the assets.

A particular disadvantage of applying a DORC valuation to the Goldfields Gas Pipeline is that it involves modification of the initial pipeline design. Given that the original owners were required to construct the pipeline in accordance with the specification set out in clause 9(5) of the *Goldfields Gas Pipeline Agreement Act 1994*,[31] a DORC valuation that does not recognise these design constraints may be regarded as unfair to the pipeline owner inasmuch as the original owners of the pipeline may have been restricted in their ability to optimise the pipeline design.

5.4.3.5 International Best Practice

Section 8.10(e) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (e) international best practice of Pipelines in comparable situations and the impact on the international competitiveness of energy consuming industries;

Submissions from Interested Parties

There were no submissions on issues concerning international best practice.

[31] Clause 9(5) of the *Goldfields Gas Pipeline Agreement Act 1994* is quoted on page 96 of this Draft Decision.

Additional Considerations of the Regulator

Information on international practice in asset valuation for regulatory purposes is available from the UK and USA, both of which have histories of regulation of private utility businesses.

Regulators in the USA have relied upon historical cost valuations of assets as a basis for rate of return regulation. Regulators in the UK have tended to use replacement cost valuation methods of assets, such as DORC valuations, as a basis for price cap or revenue cap regulation.

Regulators in the UK have also utilised a "market valuation" approach to asset valuation for privatised utility companies, typically involving establishing asset values as the market value of company stocks after some period of trading, or some multiple or fraction of this value. In these cases, the market values have been below the value of replacement cost of assets, and multipliers greater than one have been applied on some occasions to cause the regulatory asset value to be closer to the replacement cost.[32]

The Regulator does not, however, consider there to be any established or generally accepted "international best practice" in asset valuation that could be applied to the Goldfields Gas Pipeline.

5.4.3.6 Past Tariffs, Economic Depreciation and Historical Returns

Section 8.10(f) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (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;

The Goldfields Gas Pipeline has been a regulated pipeline since its completion in 1996 and tariffs for third party users have been set on a non-discriminatory basis under the *Goldfields Gas Pipeline Agreement Act 1994*. The Access Arrangement Information provides information on changes in third party transmission tariffs since they were originally set, which has been a reduction to 75 percent of their original value by January 2000.[33]

Submissions from Interested Parties

There were no submissions that raised issues concerning how tariffs were set in the past, economic depreciation or historical returns relating to the determination of the Initial Capital Base.

Additional Considerations of the Regulator

The Regulator sought to examine the impact of past tariffs, economic depreciation and historical returns as these relate to the determination of the Initial Capital Base for the Goldfields Gas Pipeline. The pipeline has, however, changed ownership and under the terms

[32] Whittington, G., 1994. Current cost accounting: its role in regulated utilities, *Fiscal Studies* 15(4): pp88-101.

[33] AAI section 3.3.4.

of the State Agreement Act the original joint venturers who constructed the pipeline were not required to pay the third party tariffs provided for by the legislation. In view of the special arrangements provided for by the State Agreement Act, a historical record of revenues from third party tariffs would not be reflective of the returns to the pipeline.[34]

5.4.3.7 Reasonable Expectations of Persons Under the Previous Regulatory Regime

Section 8.10(g) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (g) the reasonable expectations of persons under the regulatory regime that applied to the Pipeline prior to the commencement of the Code;

Before the Code came into effect on 1 January 2000, access to the Goldfields Gas Pipeline was regulated by the *Goldfields Gas Pipeline Agreement Act 1994*. The provisions of subclauses 20(2), 21(2) and 21(3) of the State Agreement Act are relevant to the expectations of persons under the regulatory regime that applied to the pipeline prior to the commencement of the Code.[35]

Submissions from Interested Parties

There were no submissions from interested parties that specifically made reference to the reasonable expectations of persons under the regulatory regime that applied to the Pipeline prior to the commencement of the Code.

Additional Consideration of the Regulator

The Regulator has interpreted section 8.10(g) of the Code as requiring that the Regulator consider the expectations that persons may reasonably hold as to the value of pipeline assets in light of the previous regulatory regime applying to the Goldfields Gas Pipeline.

Subclause 22(1) of the State Agreement Act provides that third party tariffs must be fair and reasonable and consistent with tariff setting principles approved by the Minister:

> (1) Contracts for transmission of natural gas and associated services negotiated by the Joint Venturers with Third Parties must incorporate tariffs that are fair and reasonable and consistent with the tariff setting principles approved by the Minister under this Agreement.

Clause 9 of the State Agreement Act provides for the Joint Venturers under that agreement to submit to the Minister[36] detailed proposals including in respect of third party tariffs (subclause 9.1(l)):

> (1) tariff setting principles to apply to Third Parties other than Initial Customers in respect of the Initial Committed Capacity.

The tariff setting principles that applied prior to the commencement of the Code are appended as Attachment 1. One of these principles is that:

[34] Refer subclause 8(1) of the State Agreement Act.

[35] These provisions of the *Goldfields Gas Pipeline Agreement Act 1994* are quoted in section 2.5 of this Draft Decision.

[36] The Minister in this case being the Minister for Resources Development.

> Tariffs will be set to provide a commercial rate of return on all project capital, including all Owners' costs, reasonably incurred in the construction and operation of the Pipeline and to recover all reasonable Pipeline operating, maintenance and administration costs.

The principle of a commercial rate of return on costs incurred in the construction of the pipeline is considered to be consistent with establishing an Initial Capital Base under the Code based on actual costs of construction, such as a Depreciated Actual Cost value.

In view of the above, it is considered that the reasonable expectations of persons under the regulatory regime that applied to the pipeline prior to the commencement of the Code in respect of the value of pipeline assets are that the provisions of the Code would apply.

5.4.3.8 Impact on the Economically Efficient Utilisation of Gas Resources

Section 8.10(h) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (h) the impact on the economically efficient utilisation of gas resources;

This provision of the Code raises issues concerning the impact of the Initial Capital Base valuation on transmission tariffs and hence gas prices to consumers of gas. In effect, this becomes a question of whether the valuation of the Initial Capital Base will result in transmission tariffs that are consistent with economic efficiency in the use of gas resources.

Submissions from Interested Parties

There were no submissions that made reference to the impact on the economically efficient utilisation of gas resources as it relates to the valuation of the Initial Capital Base.

Additional Considerations of the Regulator

The Victorian Office of the Regulator General has interpreted section 8.10(h) of the Code as a need to determine whether the selected capital base valuation methodology provides price signals that 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.[37] The Regulator has adopted a similar interpretation in determining the appropriateness of the Initial Capital Base in relation to tariffs.

Efficient use of gas as compared with other energy resources would require that Users of the Goldfields Gas Pipeline, and ultimately the end users of gas, should pay at least the avoidable cost of gas transportation, which is the (forward-looking) cost that the Service Provider could avoid by ceasing to provide the service to that customer. This avoidable cost would not include capital costs arising from sunk investment, but would include necessary incremental capital costs. Consequently, in order to motivate the efficient use of gas, the valuation of the capital base and the allocation of resultant capital costs should be designed to minimise the

[37] 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.

divergence in gas usage from the efficient levels that would occur if Users paid only the avoidable cost.

Satisfaction of this criterion would generally require that the valuation of the Capital Base be as low as possible while still being consistent with providing the signals to investors in both gas transmission assets and gas utilisation assets that motivate a longer-term efficient level of investment. This may necessitate a treatment of past investment in a similar manner as for new capital investment. Such a valuation would normally take inflation, changes in technology and changes in market related factors into account consistent with a DORC valuation of the pipeline. For the Goldfields Gas Pipeline, this needs to be balanced against the potential "unfairness" to the pipeline owner of a DORC valuation in the particular circumstances of this pipeline relating to the constraints imposed on pipeline design by the *Goldfields Gas Pipeline Agreement Act 1994*.

5.4.3.9 Comparability with the Cost Structure of New Pipelines

Section 8.10(i) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

> (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);

Submission from Interested Parties

There were no submissions from interested parties that made specific reference to the comparability with the cost structure of new Pipelines that may compete with the Goldfields Gas Pipeline.

Additional Considerations of the Regulator

The Access Arrangement Information provides detailed discussion by GGT on the amount of competition faced by the Goldfields Gas Pipeline, from both other fuels and other pipelines. It is noted that lateral pipelines from the Dampier to Bunbury Natural Gas Pipelines (DBNGP) could compete with the pipeline. Examples include the Midwest Pipeline, which services vanadium processing at Windimurra and a pipeline from Geraldton to Mount Margaret currently under consideration by Anaconda.

The Midwest Pipeline could be extended to compete directly with the Goldfields Gas Pipeline. However, because of the small diameter of the Midwest Pipeline (200/150 mm) this would require a high degree of compression to meet loads such as those being sought to supply mining and mineral processing projects at Murrin Murrin and Mt Margaret. The additional compression and extension of the Midwest Pipeline from Windimurra to Murrin Murrin and Mt Margaret may be uneconomic in current circumstances.

In regard to the proposed Geraldton to Mount Margaret Pipeline, such a development may be economic at the current Goldfields Gas Pipeline tariff.[38]

[38] Anaconda Nickel Ltd, Submission 8 March 2000, p13.

5.4.3.10 Price Paid for any Recently Purchased Asset

Section 8.10(j) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

(j) the price paid for any asset recently purchased by the Service Provider and the circumstances of that purchase;

Submissions from Interested Parties

There were no submissions that made reference to the purchase price of the Goldfields Gas Pipeline independent of Depreciated Actual Cost. Submissions that did discuss the purchase price in relation to the Depreciated Actual Cost are addressed in section 5.4.3.1 above.

Additional Considerations of the Regulator

The Goldfields Gas Pipeline changed ownership in the period December 1998 to March 1999, when it was purchased by the current GGT joint venture. It is understood that WMC Resources sold its 63 percent share for approximately $402 million and Normandy Pipelines sold its 25 percent share for approximately $147 million.[39] The sale of the remaining share by BHP Minerals was conducted in conjunction with the sale of other assets and the sale price of the pipeline assets could not be separately determined. However, on the basis of the proportionate values of the shares sold by WMC and Normandy, GGT estimated the full sale price of the Goldfields Gas Pipeline to be approximately $624 million. This is 38 percent higher than the Initial Capital Base of $452.6 million proposed by GGT.

In relation to the sale value of the pipeline, the Regulator recognises that there are many factors that influence the market price for a pipeline and that there is substantial uncertainty as to the extent to which such a price may represent a reasonable valuation of the assets for regulatory purposes. The ACCC has noted, for example, that sale prices in excess of predetermined regulatory asset values may reflect a combination of:

- the winner's curse (valuations by the winner erroneously biased upwards by more than other bidders);
- the winner's costs of capital being substantially below that initially proposed by the regulator; and
- expectations of efficiency savings and benefits of the new owners getting a foothold into the Australian energy market.[40]

Sale price is also limited as a valuation methodology for regulatory purposes owing to a circularity problem whereby the buyer of a pipeline may be able to factor future tariff increases into the purchase price knowing that such increases could be recovered from Users through regulated tariffs based on a sale price valuation of the assets.

Under the circumstances, the Regulator considers that sale price is of limited relevance as an asset valuation methodology for the Goldfields Gas Pipeline.

[39] AAI section 4.1.2.

[40] ACCC, 19 December 2000, Draft Decision Access Arrangement by East Australian Pipeline Limited for the Moomba to Sydney Pipeline System, pp39,40.

5.4.3.11 Other Factors Considered Relevant

Section 8.10(k) of the Code provides that, in establishing the Initial Capital Base of a pipeline that was in existence at the commencement of the Code, the Regulator should consider:

(k) any other factors the Relevant Regulator considers relevant.

Submissions from Interested Parties

- Anaconda Nickel Ltd

  The working capital proposed by GGT is excessive. Working capital should only include the linepack inventory and an amount for the daily running of the pipeline. There is insufficient data provided by GGTJV to determine their performance figures using these criteria.

The Regulator examined the projected working capital requirements for the Goldfields Gas Pipeline and obtained an independent assessment of the projections from the technical consultant. Reasonable working capital requirements were considered to be equal to the value of linepack plus 12 percent of estimated operating and maintenance costs. The value of working capital so derived was $2.4 million, compared with $2.6 million proposed by GGT. Given the similarity of these values, the Regulator considers GGT's estimated value of working capital to be reasonable.

5.4.4 Conclusions

In considering the factors to be taken into account in establishing the Initial Capital Base for the Goldfields Gas Pipeline and the issues raised in submissions, the Regulator concludes that a Depreciated Actual Cost valuation methodology is appropriate for the Goldfields Gas Pipeline. A Depreciated Actual Cost is preferred over other possible valuations for the following reasons.

- A valuation based on actual cost gives recognition to the constraints on pipeline design under the *Goldfields Gas Pipeline Agreement Act 1994*.
- Inflation has been low in the period since the construction of the Goldfields Gas Pipeline, which is consistent with the use of a Depreciated Actual Cost valuation methodology that assumes inflation to be zero.
- Independent advice by the technical consultant is that pipeline construction costs do not appear to have increased since the Goldfields Gas Pipeline was constructed, possibly due to the impact of technological improvement approximately offsetting the low level inflation recorded over the period.

In the absence of information on the actual amount of depreciation charged to Users, or thought to have been charged to Users, the Regulator made an assumption as to historical depreciation, estimating this depreciation by a straight line methodology. The resulting Depreciated Actual Cost value was estimated at $435.4 million. After adding $2.6 million working capital to the Depreciated Actual Cost gives an Initial Capital Base value of $438.0 million.

The Regulator recognises that this valuation is in excess of the DORC valuation of the pipeline ($406.7 million), which in most circumstances is a reasonable upper limit on asset value. However, the Regulator considers the difference and hence any economy wide

inefficiency implications of an Initial Capital Base in excess of the DORC value to be outweighed by the reasonable interests of the Service Provider in having the design constraints of the *Goldfields Gas Pipeline Agreement Act 1994* recognised in the valuation of the Initial Capital Base.

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

Amendment 32

The Access Arrangement Information should be amended to set the Initial Capital Base of the Goldfields Gas Pipeline at $438.0 million as at 31 December 1999.

5.5 CAPITAL EXPENDITURE

5.5.1 Access Code Requirements

Sections 8.15 to 8.26 of the Code deal with New Facilities Investment, Speculative Investment, forecast Capital Expenditure, Capital Contributions and surcharges to meet the costs of New Facilities Investment. These sections of the Code address issues including the circumstances in which forecast Capital Expenditure on a covered pipeline and associated regulated assets is incorporated into the Capital Base of the pipeline, and how forecast Capital Expenditure is considered in the determination of Reference Tariffs.

The Capital Base of a covered pipeline may be increased from the commencement of a new Access Arrangement Period to recognise capital costs incurred in constructing New Facilities for the purpose of providing services, subject to the New Facilities Investment meeting certain criteria.

Section 8.16 of the Code sets out criteria that must be met by any New Facilities Investment if the actual capital cost of that investment is to be added to the Capital Base. These criteria are:

(a) the amount of the capital cost does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of delivering services; and

(b) one of the following conditions is satisfied –

  (i) the Anticipated Incremental Revenue generated by the New Facility exceeds the New Facilities Investment; or

  (ii) the Service Provider and/or Users satisfy the Relevant Regulator that the New Facility has system-wide benefits that, in the Relevant Regulator's opinion, justify the approval of a higher Reference Tariff for all Users; or

  (iii) the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services.

Section 8.17 of the Code sets out two factors that the Regulator must consider in determining whether Capital Expenditure meets the criteria set out in section 8.16(a):

(a) whether the New Facility exhibits economies of scale or scope and the increments in which Capacity can be added; and

(b) whether the lowest sustainable cost of delivering Services over a reasonable time frame may require the installation of a New Facility with Capacity sufficient to meet forecast sales of Services over that time frame.

Section 8.18 of the Code allows for a Reference Tariff Policy to state that the Service Provider will undertake New Facilities Investment that does not satisfy the requirements of section 8.16, but that the Capital Base may be increased by that part of such investment that satisfies section 8.16 (the Recoverable Portion).

Section 8.19 of the Code allows for an amount of the balance of the investment to be assigned to a Speculative Investment Fund, and to be added to the Capital Base at some future time if and when the criteria of section 8.16 are met. Section 8.19 also sets out the manner in which the value of the Speculative Investment Fund is determined at any time.

Section 8.20 of the Code provides for Reference Tariffs to be determined on the basis of New Facilities Investment that is forecast to occur within the Access Arrangement Period provided that the investment is reasonably expected to pass the requirements of section 8.16 when the investment is forecast to occur. This does not, however, mean that the forecast New Facilities Investment will automatically be added to the Capital Base after it has occurred (section 8.21). Rather, the Regulator will assess whether the investment meets the criteria of section 8.16 of the Code either at the time of review of the Access Arrangement or, if asked to do so by the Service Provider, at the time at which the investment takes place.

Section 8.22 of the Code requires that either the Reference Tariff Policy should describe, or the Regulator shall determine, how the New Facilities Investment is to be determined for the purposes of additions to the Capital Base at the commencement of the subsequent Access Arrangement Period. This includes whether (and how) the Capital Base at the commencement of the next Access Arrangement Period should be adjusted if the actual New Facilities Investment is different from the forecast New Facilities Investment.

Sections 8.23 to 8.26 of the Code set out provisions for New Facilities Investment to be financed in whole or in part by capital contributions from Users, or from surcharges over and above Reference Tariffs to be levied on Users.

5.5.2 Access Arrangement Proposal

Capital Expenditure information is provided in section 4.3 of the Access Arrangement Information. The aggregated information on proposed Capital Expenditure that is presented in the Access Arrangement Information is reproduced in Table 10 below.

GGT has projected future Capital Expenditure on the basis that there will be no expansion of the capacity of the pipeline over the Access Arrangement Period. The expenditure shown in Table 10 covers the replacement of miscellaneous capital equipment and enhancement of peripheral and utility systems and equipment.

Table 10
Goldfields Gas Pipeline Future Capital Expenditure
(Nominal)

Year	2000	2001	2002	2003	2004
	$'000	$'000	$'000	$'000	$'000
Future Capital Expenditure	1,454	1,173	1,200	1,223	1,247

5.5.3 Submissions from Interested Parties

There were no submissions from interested parties on this issue.

5.5.4 Considerations of the Regulator

The Capital Expenditure forecasts for the Goldfields Gas Pipeline in the Access Arrangement Information are presented in nominal terms. For tariff modelling purposes the Regulator requires such expenditure to be expressed in "real" (adjusted for the effects of inflation) terms. Accordingly, the nominal Capital Expenditure estimates provided by GGT[41] have been deflated using the GGT assumed inflation rate of 2.5%.[42] A comparison showing real and nominal Capital Expenditure projections is shown in Table 11 below.

Table 11
Goldfields Gas Pipeline Future Capital Expenditure
(Expressed in Real and Nominal Values)

Year	2000	2001	2002	2003	2004
	$'000	$'000	$'000	$'000	$'000
Capital Expenditure "Nominal"	1,454	1,173	1,200	1,223	1,247
Capital Expenditure "Real" (as at 31 December 1999)	1,419	1,116	1,114	1,108	1,102

The Access Arrangement Information provides aggregate information on forecast Capital Expenditure, but does not provide a description of the nature and justification for the associated New Facilities Investment, as required under Category 2 of Attachment A to the Code. Such information is necessary in order to meet the requirement of section 8.20 of the Code, which is that the New Facilities Investment is reasonably expected to pass the requirements of section 8.16 when the New Facilities Investment is forecast to occur.

[41] AAI section 4.3.

[42] AAI section 7.4.9.

GGT provided the Regulator with further details of proposed Capital Expenditure on a confidential basis. On the basis of the information provided the Regulator is satisfied that the proposed Capital Expenditure meets the requirements of section 8.20 of the Code that the proposed New Facilities Investment reasonably satisfies the requirements of section 8.16.

As the detailed information on the proposed Capital Expenditure was provided on a confidential basis, this information has not been published but the Regulator is giving further consideration to whether such information should be made public.

5.6 NON-CAPITAL COSTS

5.6.1 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 efficient Non-Capital Costs as follows:

> 8.37 A Reference Tariff may provide for the recovery of all Non Capital Costs (or forecast Non Capital Costs, as relevant) except for any such costs that would not be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Service.

5.6.2 Access Arrangement Proposal

Section 5 of the Access Arrangement Information provides details of the Non-Capital Costs for the Goldfields Gas Pipeline over the Access Arrangement Period. A breakdown of Non-Capital Costs has been provided as follows:

- Pipeline Operating and Maintenance Costs:

  Those incurred in the operation and maintenance of the Goldfields Gas Pipeline and associated facilities. They include direct operations, operations support, engineering support, Right of Way management, and direct administration and management.

- Management Costs:

  Those incurred in the high level management of the Goldfields Gas Pipeline and the provision of commercial and contractual support to direct operations. Management Costs include management fees, legal, public relations, regulatory related activities, and communications leases.

Table 12
Goldfields Gas Pipeline Non-Capital Costs
(Nominal Dollars)

Year	**2000**	**2001**	**2002**	**2003**	**2004**
	$'000	$'000	$'000	$'000	$'000
Pipeline Operating & Maintenance Costs	6,635	6,937	7,133	7,386	7,781
Management Costs	4,669	4,315	4,169	4,200	4,931
Total Costs	**11,304**	**11,252**	**11,302**	**11,586**	**12,712**

The costs presented in Table 12 do not include Used Gas (the sum of compressor fuel and unaccounted for gas) or linepack adjustments. Marketing and overhead costs are included as part of management costs. Marketing and overhead costs include, but are not limited to costs arising from:

- salaries and related on costs,
- legal,
- marketing,
- public relations,
- commercial and operations management fees,
- regulatory,
- project evaluation.

Further details are presented in the Access Arrangement Information.[43]

5.6.3 Submissions from Interested Parties

- Anaconda Nickel Ltd

  The operating costs for the Goldfields gas pipeline are excessive - especially when compared to those of Epic for the Dampier to Bunbury pipeline. Operating costs generally don't have a major impact on tariffs – however the size of the Operating costs in this instance imparts some significance to them. Several points must be considered:

  - Actual data should be available and therefore used to justify these numbers.
  - There is insufficient detail contained in the submission to justify the operating and maintenance costs.
  - The GGTJV marketing and overhead costs are high, particularly in a market where they are not anticipating any significant growth and they have limited customers with which to deal.
  - There is no improvement/reduction program for the operating costs.[44]

[43] AAI sections 5.1 and 5.2.

[44] The matter concerning an improvement and cost reduction program for Non-Capital Costs is addressed under the heading of incentive mechanisms in section 5.12 of this Draft Decision.

- We would expect the Regulator to be able to benchmark costs to other pipeline operators and adjust the O&M costs accordingly.

On the basis of the information provided by GGT, the Regulator was not satisfied that all the forecast components of the Non-Capital Costs proposed by GGT meet the requirements of section 8.37 of the Code, which requires that such costs would be those 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.

GGT summarised Non-Capital Costs in two categories, pipeline operating and maintenance costs, and management costs. In order for the Regulator to assess Non-Capital Costs, GGT provided details on a confidential basis of historical pipeline operating and maintenance costs and management costs for the pipeline. The Regulator considered that the proposed pipeline operating and maintenance costs are consistent with the level of historical expenditure and are justified. However the Regulator considered that the increase on historical costs proposed by GGT for management costs represented a significant increase of expenditure above the historical levels, not all of which were justified on the basis of the information provided by GGT. The Regulator therefore estimated Non-Capital Costs for the Access Arrangement Period (Table 13) as the sum of:

- pipeline operating and maintenance costs as projected by GGT;
- escalated historical management costs; and
- anticipated regulatory expenses.

As the historical costs were provided on a confidential basis, this information has not been published but the Regulator is giving further consideration to whether such information should be made public.

The Regulator sought to benchmark the Non-Capital Costs proposed by GGT against those of other pipelines in Australia, but was unable to identify another pipeline that would provide a useful basis for comparison. The Amadeus Basin to Darwin Pipeline is one that potentially could be used for benchmarking the Goldfields Gas Pipeline. A proposed Access Arrangement has been lodged with the ACCC for the Amadeus Basin to Darwin Pipeline and a Draft Decision is pending. Once the Draft Decision for the Amadeus Basin to Darwin Pipeline has been issued, the opportunity to benchmark this pipeline against the Goldfields Gas Pipeline may be available.

The Regulator's estimated Non-Capital Costs as compared with those projected by GGT are presented in Table 13 below.

Table 13
Goldfields Gas Pipeline Non-Capital Costs
Estimated by the Regulator for Reference Tariff Purposes
(31 December 1999 Dollars)

Year	2000	2001	2002	2003	2004
	$'000	$'000	$'000	$'000	$'000
Total as Projected by GGT[45]	11,028	10,710	10,495	10,496	11,236
Total as Adjusted by the Regulator	9,860	9,501	9,534	9,634	10,333
Difference	-10.6%	-11.3%	-9.2%	-8.2%	-8.0%

The total annual Non-Capital Costs calculated by the Regulator are on average 9.5 percent less than those proposed by GGT in the Access Arrangement Information. In order for management costs, as proposed by GGT, to be included in the Access Arrangement, GGT will need to provide further justification of its proposed management costs in order to demonstrate that such costs would be those incurred by a prudent Service Provider. For the purposes of the Draft Decision, the Regulator has used the adjusted costs as shown above.

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

Amendment 33

That Non-Capital Costs proposed in the Access Arrangement Information for the Goldfields Gas Pipeline be amended to the values as follows:

Year	2000	2001	2002	2003	2004
Total (31 December 1999 $'000)	9,860	9,501	9,534	9,634	10,333

5.7 RATE OF RETURN

5.7.1 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

[45] As in the case of Capital Expenditure, for modelling purposes, the Regulator requires operating and maintenance costs to be expressed in "real" (adjusted for inflation) terms. This was achieved by deflating the costs involved by GGT's projected inflation rate of 2.5%.

Service. These principles apply to the proposed Access Arrangement for the Goldfields Gas Pipeline.

Sections 8.30 and 8.31 state:

> 8.30 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).
>
> 8.31 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.[46]

Overall, the Regulator considers that the Rate of Return used in determining Reference Tariffs should be set at a level that best estimates the rate of return that providers of finance would require to invest in assets that have the same risk profile as GGT's regulated business.

5.7.2 Access Arrangement Proposal

GGT has chosen to use a Net Present Value (NPV) approach to determining Total Revenue and Reference Tariffs. This is provided for by section 8.4 of the Code and is described in section 7.2 of the Access Arrangement Information. The Rate of Return used as the discount rate in NPV calculations is the Weighted Average Cost of Capital (WACC). Information on the derivation of the WACC by GGT is contained in section 7.4 of the Access Arrangement Information.

The WACC proposed by GGT is a pre-tax real WACC of 12.2 percent. The Capital Asset Pricing Model (CAPM) was used to derive the after tax WACC, which was then converted to a pre-tax real WACC using the 'forward transformation' method. The input variables used by GGT to derive the 12.2% WACC are set out in Table 14 below.

[46] The objectives contained in section 8.1 of the Code are reproduced on page 79 of this Draft Decision.

Table 14
Parameters Used by GGT to Calculate the WACC

PARAMETER	PARAMETER VALUE
Inflation	
Inflation Rate	2.5%
Gearing Assumptions	
Debt	50%
Equity	50%
Cost of Debt	
Debt Margin	2.25%
Nominal Pre-Tax Cost of Debt	8.95%
Cost of Equity	
Nominal Risk Free Rate	6.7%
Australian Market Risk Premium	6.5%
Beta (equity)	1.4
Dividend Imputation Factor	
Value of Franking Credits	30%
Taxation	
Company Tax Rate	36%

Discussion on these parameters is provided in section 7.4 of the Access Arrangement Information.

The values of the different forms of the WACC calculation, based on the input variables proposed for the Goldfields Gas Pipeline, are presented in Table 15 below.

Table 15
Rate of Return Values Calculated From GGT's Assumed CAPM Parameters

Target WACC	Nominal	Real
Post-Tax (Officer) WACC	9.6%	7.0%
Pre-Tax WACC (Forward Transformation)	15.0%	12.2%
Post-Tax Return on Equity	15.8%	13.0%
Pre-Tax Return on Equity	21.1%	18.2%

The various elements of the CAPM model proposed by GGT and the positions taken on each element, after considering the issues raised in submissions from interested parties, are discussed below after considering the CAPM framework in more detail.

5.7.3 The CAPM Framework

The Capital Asset Pricing Model (CAPM) is widely used by regulators internationally, particularly in the United Kingdom where it is used as a model for estimating the regulatory WACC. It is used in both corporate finance and regulatory applications in Australia. The use of the CAPM by GGT is also consistent with section 8.31 of the Code, which makes explicit reference to this approach for the determination of the Rate of Return.

The typical approach by regulators has been to use the CAPM to derive the "target" post-tax WACC, and then to make adjustments to the WACC for the net cost of taxation. At its simplest level, the CAPM specifies the WACC for an asset as a rate of return that can be earned by a risk-free asset plus a risk premium for the asset in question. The risk premium depends upon the risk of the particular asset relative to the risk associated with a diversified asset portfolio. Analytically:

$$WACC = R_f + b_a(R_m - R_f)$$

where R_f is the risk free rate, R_m is the market rate, $(R_m - R_f)$ is the expected risk premium above the risk free rate for the portfolio of all assets, and b_a is the measure of the particular asset's relative risk, or its asset beta.[47]

In practice, asset betas cannot be observed or measured directly. Estimating a beta requires historical information on the economic returns to an asset (comprising the value of the returns plus the change in the market value of the asset), and on economic returns to the well-diversified portfolio of assets. As this type of information is only available on assets that are traded on a stock exchange, the CAPM is used to estimate the required return to the equity

[47] Note that, under this version of the CAPM, there is no need for assumptions about the cost of debt or capital structure for the entity to estimate its WACC, because this version of the model assumes that all finance is from the equity market.

share of an asset, and stock market indices are used as a proxy for the market portfolio. Accordingly, the more common formulation of the CAPM is the following:

$$R_e = R_f + b_e(R_m - R_f)$$

where R_e is the required return on that equity, R_f is the risk free rate and b_e is the measure of the particular equity's relative risk, or its equity beta. $(R_m - R_f)$ is now the expected risk premium above the risk free rate for a well-diversified portfolio of equities. The outcome of this model, therefore, is an estimate of the required after-tax return to equity. The return required by the other source of financing (eg debt) can be observed directly from the market, and the average of these sources of financing (weighted by the respective shares of debt and equity in the financing of the asset) provides an estimate of the WACC for the asset. That is:

$$WACC = R_e \frac{E}{V} + R_d \frac{D}{V}$$

where $\frac{E}{V}$ and $\frac{D}{V}$ are equity and debt as shares of total assets V, and R_d is the cost of debt.

There are, however, a number of different versions of the after tax WACC, which are derived by transferring one or more of the particular costs or benefits from the cash flows to inclusion in the WACC formula. One popular form is the 'Officer' WACC, which has the following formula:

$$WACC = R_e \cdot \frac{E}{V} \cdot \frac{1 - t_c}{(1 - t_c(1 - \gamma))} + R_d \cdot \frac{D}{V} \cdot (1 - t_c)$$

where t_c is the corporate tax rate and γ is the franking credit utilisation.

Submissions from Interested Parties

- Treasury, Office of Energy and Department of Resources Development

> There would be benefit in the Regulator requiring the use of a consistent methodology and transparently derived inputs for those parameters which are not company specific (eg inflation, typical gearing ratios, market risk premia, tax rates and gamma factors). Certain parameters …may also …vary over time in response to underlying economic conditions. Given the relevant time horizon of up to 100 years for some assets, there is a case for considering outlying point estimates within the context of longer-term averages of parameter values.

The regulatory environment associated with gas pipelines in Australia is relatively new. The development of a consistent methodology and a comprehensive set of inputs for the relevant parameters is therefore still under development. Also, as noted in the submission from Treasury, Office of Energy and the Department of Resources Development, variables will change with economic conditions, and input variables calculated on past experience require detailed analysis and research to ensure that these are relevant to forward-looking estimates. The Regulator is mindful of the industry standards referred to in section 8.31 of the Code and is supportive of additional research to enhance benchmarks in this area. Some standard industry parameters have been developed and used for regulatory purposes where appropriate. Examples include:

- gearing;

- market risk premiums; and
- dividend imputation factors (gamma).

The industry standards considered relevant are discussed individually in the discussion of input variables below.

5.7.4 Market (Equity) Risk Premium ($R_m - R_f$)

The market or equity risk premium measures the return expected by investors to compensate them for holding an average market portfolio of investments compared to a riskless asset such as a long term Government bond. In theory, the market risk premium is a forward-looking measure. However, a popular approach to estimating the premium is to examine historical values. The use of historical averages can, however, be contentious for a number of reasons, explained more fully below.

GGT contends that empirical research has shown that the market risk premium fluctuates significantly over the short to medium term and that it is prudent to take a long term average of historical values to be applied in a forward-looking model such as the CAPM. On this basis and on the basis of empirical research by Hathaway[48] and Officer[49], GGT has proposed a market risk premium of 6.5 percent for the Australian market risk premium in its calculations.

Submissions from Interested Parties

✎ Treasury, Office of Energy and Department of Resources Development

The assumed typical market risk premium of 6.5% appears to be within the range of accepted industry values.

✎ North West Shelf Gas

Work undertaken by Professors R.R. Officer and N. Hathaway (Melbourne University) tracking the long-term average Market Risk Premium, suggests that the Market Risk Premium is 6%. GGT have used 6.5%.

✎ Anaconda Nickel Ltd

Several values have been considered for the market risk premium in recent times and can be summarised as follows.

- Hathaway suggested a premium of 6.6% in September 1999.
- Traditional Australian studies have suggested a long-term market risk premium in the range of 6-7%.
- A value of 6% was applied by the ACCC in its Victorian Gas Access Arrangement Decision.
- Recent studies by various parties have identified values in the range between 5% and 7%.
- A value of 6% was applied by the Office of the Regulator General.
- Regulators in the United Kingdom currently use values of between 3% and 4%.

[48] Hathaway, Neville, *Market Risk Premia*, 15 September 1999.

[49] Officer R R, *Rates of Return to Shares, Bond Yields and Inflation Rates: An Historical Perspective*, 1989.

- WA Regulator used a figure of 6% in its draft decision for the Parmelia pipeline.
- A range of 5% to 6% was used by IPART in its draft decision for the Natural Gas System in NSW.

> It is felt that a value towards the lower end of the range is most appropriate for this pipeline. Anaconda used a value of 5.5% in their calculations.

The size of the market risk premium, and even the methodology for estimating it, is subject to significant debate amongst finance academics and practitioners.

The analysis of historical returns is a popular method for estimating the expected equity premium. However, estimates of the historical premium to equity over the risk free rate[50] are highly sensitive to assumptions such as the period over which the analysis is undertaken, whether an arithmetic or geometric average should be used, how changes in the taxation rate on equity are taken into account, and whether or not more weight should be given to recent estimates. In addition, these estimates have also been subject to a number of other criticisms, such as that the implicit assumption that the premium has not changed over the averaging period may be questionable, and that the premium measured for countries such as the US, UK and Australia may be subject to bias.

Other methods have also been used. One is the use of an "ex-ante" model, which involves projecting dividends for the whole market and estimating the equity premium by finding the discount rate that reconciles the dividend stream with the current market valuation. In work undertaken for the ACCC by an independent specialist using this methodology, a range of 4.5 percent to 7.0 percent for the market risk premium has been suggested.[51] More recent calculations by the Office of the Regulator-General in Victoria suggested that this methodology would produce an estimate of the market risk premium of about 5 per cent.[52] However, this method too is open to criticism, in particular that the ex-ante model is highly dependent upon the assumption made about future dividend growth for the stock-market.

Currently, a view is emerging that the equity premium is less than point estimates of long term historical averages. Outside Australia, the weight of analysis is shifting towards a view that the equity premium has fallen as investor's perceptions of risks are changing. In the UK, for example, utility regulators currently use a range of between 3 percent and 4 percent for the equity premium,[53] although care must be taken when considering equity premiums from outside Australia because of the smaller size of the Australian equity market relative to those in the UK or US. Within Australia, many equity analysts now use equity premia that are at the lower end of, or below, point estimates of the long term historical average.

Recently the ACCC noted that:

> The Commission acknowledges that indicators of a downward trend are not fully accepted by market participants and commentators. However, there does appear to be sufficient support to suggest that the market risk premium is now unlikely to be above 6.0 per cent. While the lower end of the range for the market risk premium remains the centre of debate, the Commission has decided to adopt the

[50] The Government bond rate is generally used as a proxy for the risk free rate.

[51] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues* May 1999, p 78-9.

[52] ORG, *Draft Decision: 2001 Electricity Distribution Price Review*, p158.

[53] IPART, *Draft Decision, Access Arrangement for AGL Gas Networks Ltd*, October 1999, p63.

> upper limit of 6.0 per cent for this *Final Decision*. However, the Commission will reconsider the appropriate level of the market risk premium over time as each regulatory decision is made.[54]

Australian regulators have generally adopted 6.0 percent as the market risk premium as indicated in Table 16 below.

Table 16
Market Risk Premiums in Recent Regulatory Decisions for Transmission Pipelines

Pipeline	Market Risk Premium	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Gas Transmission Pipelines Australia (Final Approval)	6.5%	6.0%
AGL Gas Networks (Final Decision)	6.0%-7.0%	5.0%-6.0%
Central West Pipeline (Final Approval)	6.0%-7.0%	6.0%
Moomba to Adelaide Pipeline System (Draft Decision)	6.0-%-7.0%	6.0%
Moomba to Sydney Pipeline System (Draft Decision)	6.0%	6.0%
Parmelia Pipeline (Final Approval)	6.5%	6.0%
Amadeus Basin to Darwin Pipeline	6.0%-7.0%	na
Tubridgi Pipeline System (Draft Decision)	6.0%	6.0%
Riverland Pipeline System	6.0%	na
Dampier to Bunbury Natural Gas Pipeline	6.5%	na

na: Not yet available.

Given the evidence on the magnitude of the market risk premium (including the evidence on the considerable uncertainty associated with the estimation of the parameter), and the premia that have been adopted by Australian regulators to date, the Regulator considers that a value of 6.0 percent is appropriate for the Goldfields Gas Pipeline. This is 0.5 percent lower than the value proposed by GGT.

[54] ACCC, *Final Decision, AGL Central West Pipeline*, June 2000, p22.

5.7.5 Risk Free Rate and Inflation Forecast

When a real WACC is used to determine regulated charges, it is the implied real risk free rate (rather than the nominal risk free rate) that is the relevant input parameter. Accordingly, the selection of the proxy for the risk free rate and the assumption about inflation need to be considered together.

A key issue in the derivation of a real risk free rate is whether forecast inflation is taken as the difference between nominal and index-linked bonds, or whether an independent forecast of inflation is made. The former approach, in effect, implies that the redemption yield on index-linked bonds should be used directly as a proxy for the real risk free rate.

Other issues include what term should be used for the bonds, and whether some short-term averaging be used or observed market rates are appropriate.

GGT has proposed using the 10-year Government bond rate of 6.7 percent prevailing immediately after the Reserve Bank of Australia decision on 3 November 1999 as its proxy for the nominal risk free rate. GGT then proposed using an official inflation forecast of 2.5 per cent. This results in a proxy for the real risk free rate of 4.1 percent.

Submissions from Interested Parties

- Treasury, Office of Energy and Department of Resources Development

  The rate assumed by GGT of 2.5% [for inflation] is the same as the most recent Commonwealth Treasury forecast. Perhaps more importantly…the parameter value of 2.5% is midway between the Reserve Bank of Australia's inflationary target range over the course of the business cycle. On this basis, the inflation rate assumed by GGT of 2.5% appears to be appropriate.

- Anaconda Nickel Ltd

  The inflation rate estimate should be the difference between the 20 day average nominal and real risk free 10 year bond rates. This is a widely accepted method for determining this value and has been used for previous regulatory decisions.

- Western Power

  GGT has used 6.7% nominal as the applicable value for the risk free rate. This value reflects the 10 year bond rate prevailing immediately after the Reserve Bank of Australia decision on the 3rd of November 1999 on interest rates. It appears that no average was taken over a short period, as in other arrangements.

- Treasury, Office of Energy and Department of Resources Development

  GGT has used the 10 year Commonwealth Government bond rate immediately after the RBA decision on interest rates on the 3rd November 1999. The Capital Asset Pricing Model is a forward looking model and it is considered acceptable practice to use a point estimate for the ten year Commonwealth bond or to use an average over a shorter period eg 20 business days. Recent spot rates have averaged around 7.2% for the month of January (2000) and the latest spot rate at 24 February was 6.72%. This submission considers that the risk free rate of 6.7% proposed by GGT to be appropriate. It is also relevant to consider whether current quoted rates represent above average volatility in financial markets or once-off inflationary expectations. If these factors may be present, the spot rate or its short term average should be adjusted appropriately to reflect that is only serves as a proxy for a financial asset with a term to maturity that matches the relevant regulatory life of the pipeline.

- Anaconda Nickel Ltd

  It is not clear whether the GGTJV submission for risk free rate is determined within the guidelines laid out in previous regulatory decisions. The following methodology is widely recognised as an appropriate calculation of real risk free rate, nominal risk free rate and inflation.

  - Real risk free rate should be the 20 day average yield of the 10 year capital-indexed Commonwealth Government securities.
  - Nominal Risk free rate should be the 20 day average of yields for 10 year nominal bond.
  - An inflation estimate is the difference between these two rates.

  The timing of the assessment should also be aligned with the release of the draft decision on the GGP Access Arrangement.

The ACCC is of the view that the difference in nominal and real indexed bond rates is a more appropriate indication of inflation, because this is a market based estimate.[55] The use of indexed bonds has the advantage that it permits market based expectations of inflation to be taken into account. In addition, indexed bonds have been used by other regulators to calculate a measure of inflation.[56] The Regulator has also previously adopted the market based approach on the basis of a 20-day moving average of the difference between nominal and real indexed bonds. Applying this approach in respect of the Goldfields Gas Pipeline yields an inflation rate of 2.14 percent.[57]

It is common practice by Australian regulators to derive a proxy for the nominal risk free rate by reference to moving averages of Government bond rates over a short period of time to average out volatility in daily rates. The ACCC considers that a 40-day moving average of 5-year bond rates is appropriate for calculating the risk free rate.[58] In previous decisions, the Regulator has adopted a 20-day moving average on 10-year Government bonds. Although differences arise as a consequence of adopting different approaches in the length of averages used and the type of bond chosen, the use of a moving average, rather than a spot value is a clearly established principle among regulators. The averaging process ameliorates the likelihood of obtaining outlying values that are not representative.

Applying the approach used by the Regulator in previous decisions yields a nominal risk free rate of 5.35 percent.[59] Applying the Fischer Transformation using the above inflation estimate of 2.14 percent implies a real risk free rate of 3.14 percent. This compares with the real risk free rate of 4.1 percent proposed by GGT. The lower real risk free rate of 3.14 percent determined by the Regulator directly reflects lower market rates observed for 10-year Government bonds.

[55] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues* May 1999, p 83.

[56] See for example: ORG, Draft Decision for Multinet, Westar and Stratus, May 1998, p213. Also see IPART, Draft Decision for AGL Gas Distribution October 1999, p61.

[57] Calculated for the 20-day period to the 28 February 2001.

[58] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues* May 1999, p 83

[59] Calculated for the 20-day period to 28 February 2001.

5.7.6 Cost of Debt, R_d

For reasons similar to those provided in the discussion on the debt to equity ratio below, Australian regulators have generally used a cost of debt (when estimating a regulatory WACC) that reflects the cost of borrowing for an efficiently managed and financed business. The cost of debt for the "benchmark" firm will vary according to the assumed level of gearing (which is discussed below), its credit rating and the assumed term of the efficient debt portfolio. Generally, longer-term debt has a greater interest rate risk and hence attracts a higher premium.[60]

The nominal cost of debt, R_d, is normally presented as a margin over the risk free rate:

$$R_d = R_f + \text{debt risk margin}$$

where R_f is the nominal risk free rate.

GGT has proposed a debt margin of 2.25 percent comprising:

- 25 basis points for the typical margin between the 10-year Commonwealth Government bond rate and a "bank" rate against which credit margins would be levied;
- 150-200 basis points for the credit margin on debt funding the pipeline given the risks involved (and discussed at length in the Access Arrangement Information);[61] and
- 25 basis points margin for swap costs.

GGT's assumed nominal risk free rate of 6.7 percent and debt margin of 2.25 percent results in a proposed nominal pre-tax cost of debt of 8.95 percent.

Submissions from Interested Parties

✎ Treasury, Office of Energy and Department of Resources Development

The debt premium or risk margin used by GGT of 2.25% is substantially higher than that used in various regulatory decisions including those by the ACCC and ORG. The Regulator would need to undertake a review of the debt premium with due consideration of GGT's and the individual Joint Venturers' credit ratings and any special characteristics of the debt portfolio that affect the actual cost of borrowing.

✎ North West Shelf Gas

The cost of debt of 8.95 percent is much higher than accepted in previous determinations for regulated pipelines. The debt margin of 2.25% is much higher than has been allowed in previous regulated outcomes for onshore gas pipelines. The work of the Office of the Regulator General in Victoria suggests that the cost of debt should be 0.75% to 1% higher than the risk free rate. The Commonwealth Bank, Westpac and CSFB confirmed this opinion.

[60] One of the practical problems with deriving a cost of debt for a "benchmark" entity is that the debt margin will depend upon the assumed credit rating, which in turn will depends upon many things, such as how well the firm is managed, the entity's related interests, etc.

[61] AAI section 7.4.5.

- Anaconda Nickel Ltd

  The GGTJV has used a value for the debt margin in their calculations of 2.25%. This is felt to be excessive. Previous rulings from the ACCC and ORG have been in the range of 1.0 to 1.2 for the debt margin. A value at the lower end of this range is considered appropriate for this pipeline and Access Agreement.

  The WA Regulator has arrived at a figure of 2.0% in their draft decision for the Parmelia pipeline. This took into account the considerable risk due to the uncertainty of the gas resources in the Perth basin. The Goldfields gas pipeline has minimal risk associated with the upstream supply and therefore this high value is not justified.

  One additional factor to consider is the actual cost of debt incurred by the GGTJV during the asset purchase. The market during the purchase of the assets would have had a debt margin in the order of 1.0%.

- Western Power

  [GGT's proposed debt margin of] 2.25% is higher than in past decisions made by IPART (0.9-1.1 percent), ORG (1.2 percent) and OffGAR's draft decision on the Parmelia Pipeline (2%).

In assessing the debt risk margin, the Regulator has considered the debt margins adopted by regulators in recent regulatory decisions, indicated in Table 17.

Table 17
Recent Regulatory Decisions on Debt Margins for Gas Transmission Pipelines

Pipeline	Debt Margin	
	Access Arrangement Proposal	**Draft/Final Decision**
Victorian Gas Transmission Pipelines Australia (Final Approval)	0.75%	1.2%
AGL Gas Networks (Final Decision)	1.0%-1.45%	0.9%-1.1%
Central West Pipeline (Final Approval)	1.0%-1.45%	1.2%
Moomba to Adelaide Pipeline System (Draft Decision)	1.2%-1.5%	1.2%
Moomba to Sydney Pipeline System (Draft Decision)	1.3%-1.4%	1.2%
Parmelia Pipeline (Final Approval)	1.2%	1.2%[62]
Amadeus Basin to Darwin Pipeline	1.0%-1.4%	na
Tubridgi Pipeline System (Draft Decision)	1.2%	1.2%
Riverland Pipeline System	1.2%	na
Dampier to Bunbury Natural Gas Pipeline	1.2%	na

na: Not yet available.

Empirical evidence on debt margins is variable. The ACCC in its June 2000 final decision on the AGL's Central West Pipeline cited evidence to suggest that the debt margin was increasing at the time of that decision and increased the margin from 1.0 percent used in the draft decision to 1.2 percent. IPART, in its July 2000 final decision on the Access Arrangement for AGL's Natural Gas System in NSW, cited data for corporate bond issues by a range of energy utilities and Telstra indicating debt margins in the order of 1 percent.

In view of the empirical evidence for the possible range of debt margins and precedents of other regulatory decisions, the Regulator considers that it is reasonable to assume a debt margin of 1.2 percent for the Goldfields Gas Pipeline.

[62] The Draft Decision for the Parmelia Pipeline estimated the Debt Margin at 2.0 percent based on a methodology different to that currently in use. The 2.0 percent used for the Parmelia Pipeline translates into approximately 1.2 percent on the basis of the current methodology as discussed in the Final Decision for that pipeline part B p81.

Using the above estimates of the risk free rate and the debt risk margin, the nominal pre-tax cost of debt, R_d, is determined by the Regulator to be 6.55 percent, compared with 8.95 percent proposed by GGT.

5.7.7 Debt to Equity Ratio

GGT has proposed a debt to equity ratio of 50:50, contending that the capital structure of its parent companies provides a guide to what may constitute an applicable value for calculating the WACC for the Goldfields Gas Pipeline. The debt to equity ratios of GGT's parent owners were stated to be as follows:

> The CMS Energy Corporation 1998 Annual Report shows its prevailing debt to equity ratio as 52 : 48. AGL's 1999 Annual Report indicates a debt to equity ratio of 46 : 54 for that company. The June 1999 quarterly report for TransAlta reveals it has a debt to equity ratio of 52 : 48. Data from Duke's internet website gives it a debt to equity ratio of 40 : 60.[63]

GGT also contends that the Goldfields Gas Pipeline is a significantly more risky investment justifying a gearing ratio lower than that of its owners.

Submissions from Interested Parties

- Treasury, Office of Energy and Department of Resources Development

  The typical debt to equity ratio in the gas transportation industry is considered to be 60:40 as adopted in numerous other Australian decisions concerning access in the gas transmission industry. Section 8.31 of the Code calls for the use of parameter inputs that reflect standard industry structure and best practice.

- North West Shelf Gas

  The proposed debt to equity ratio of 50:50 differs from other regulatory decisions where a ratio of 60:40 has been widely accepted as the optimum gearing ratio for most other regulated onshore gas transmission pipelines in Australia. A lower gearing ratio increases the WACC and GGT have in our view not adequately demonstrated why such a lower gearing ratio should be allowed for the GGT. The debt to equity ratio of the companies that own the GGT may not be relevant as these companies are involved in a range of activities other than the ownership of GGT and their gearing ratios may reflect a range of risks across their respective portfolios.

- Anaconda Nickel Ltd

  Section 8.31 of the Code requires that the WACC calculation should reference a financing structure that reflects standard industry structures. Previous decisions in both the Eastern States and Western Australia, have determined the appropriate value for the gearing level is 60%. Several energy asset sales in Victoria used gearing levels of 70%. More mature overseas markets commonly use Debt Equity ratios of 80%. The regulator may consider it review the actual gearing level used in the recent purchase of pipeline assets by the GGTJV.

Practice among Australian and UK regulators is to adopt a debt to equity ratio based on a financing structure relevant to a standard and efficient entity for the particular industry. This approach is consistent with the requirements of section 8.31 of the Code that requires the weighted average return on funds to be calculated by reference to standard industry financing structures. There are two main reasons for adopting a standard debt to equity ratio:

[63] AAI section 7.4.6.

1. The adoption of a standard debt to equity ratio will ensure that customers have the benefit of an efficient debt to equity ratio.

2. The selection of a debt to equity ratio is particularly important in that it impacts on a number of other inputs to the estimation of the WACC. Examples include the cost of debt, the equity beta and the relationship between betas and gearing.

As shown in Table 18, Australian regulators have generally used a debt to equity ratio of 60:40 as the industry standard for transmission pipelines.

Table 18
Regulatory Decisions on Gearing for Gas Transmission Pipelines

Pipeline	Debt to Equity Ratio	
	Access Arrangement Proposal	Draft/Final Decision
Victorian Gas Transmission Pipelines Australia (Final Approval)	60:40	60:40
AGL Gas Networks (Final Decision)	60:40	60:40
Central West Pipeline (Final Approval)	50:50-60:40	60:40
Moomba to Adelaide Pipeline System (Draft Decision)	60:40	60:40
Moomba to Sydney Pipeline System (Draft Decision)	60:40	60:40
Parmelia Pipeline (Final Approval)	50:50	60:40
Amadeus Basin to Darwin Pipeline	50:50-60:40	na
Tubridgi Pipeline System (Draft Decision)	60:40	60:40
Riverland pipeline System	60:40	na
Dampier to Bunbury Natural Gas Pipeline	55:45	na

na: Not yet available.

In considering an appropriate gearing level, the Regulator noted the requirements of section 8.31 of the Code that requires that the weighted average return on funds should be calculated by reference to a financing structure that reflects standard industry structures. For the purposes of the Draft Decision, the Regulator has interpreted a "standard industry structure" as being the gearing level of a firm that would be consistent with an industry-grade credit rating. In this regard, the Regulator notes that Standard and Poors has observed median debt to asset ratios for transmission and distribution companies rated A to BBB of 55 to

65 percent.[64] The Regulator therefore considers a gearing level of 60 percent to be an appropriate assumption for the Goldfields Gas Pipeline.

5.7.8 Proxy Beta

Estimation of a Proxy Beta

The estimation of equity betas requires continuous information on the financial returns of a particular equity (dividends, any returns of capital and the change in the market value of the asset). In practice, this information is only available for entities that are listed on a stock exchange. Even in these cases, the resulting estimates are often subject to significant statistical error. Where entities are not traded, it is common to derive a "proxy beta", which is based upon estimated betas for other firms that are considered to face similar levels of risk.

As discussed earlier, when obtaining beta estimates from comparable entities to derive a proxy beta for a particular entity, care must be taken to distinguish between equity betas and asset betas. In general, equity betas cannot be compared across entities because equity betas are affected by the level of gearing of a particular entity. Even if the degree of non-diversifiable risk in an asset is assumed constant, its equity beta will rise as its level of gearing rises. This reflects the fact that equity providers only have a right to the residual cash flow after interest is paid. As interest is a fixed commitment, the variance (risk) of the residual cash flow will rise as debt levels rise.

Accordingly, the normal practice among regulators (and some finance practitioners) is to convert an estimated equity beta into the equity beta that would result if an asset were wholly equity financed, thus removing the effect of gearing on beta. The resultant beta is known as an asset beta, and the process for converting an equity beta into an asset beta, and back again, is known as de-levering and re-levering. As asset betas are independent of the level at which a particular asset has been geared, they can be compared across entities and a proxy asset beta can be selected.[65] Once selected, this asset beta can be re-levered into the equity beta consistent with the desired level of gearing, and used in the CAPM to estimate the required equity return.

The approach the Regulator has used, to date, to de-lever and re-lever betas is represented by the following expression:

$$b_e = b_a + (b_a - b_d).\frac{D}{E}$$

where b_a is the asset beta and b_d is the debt beta.

[64] Standard and Poors "Rating Methodology for Global Power Companies", cited in Macquarie Risk Advisory Services Ltd, July 1998, Weighted Average Cost of Capital for Victorian Gas Distribution Access Arrangements.

[65] As the average equity beta is one, the average asset beta will be less than one (currently between about 0.7 and 0.8). There is a further de-levering step that could be taken which is to remove the effects of the level of gearing associated with the market portfolio. The market average for the resulting 'double un-geared' asset beta is one. While 'double un-geared' asset betas feature in the academic literature, they are not commonly referred to in general practice.

The debt beta has been estimated using the following formula:

$$b_d = \frac{N_d - R_f}{R_p}$$

Where:

N_d = nominal pre-tax cost of debt

R_p = Australian market risk premium

Where the debt beta is a measure of the systematic risk borne by providers of debt.

Risks Reflected in Betas (and the CAPM)

An important issue when estimating the cost of capital that is associated with a particular asset is to distinguish which classes of risk are reflected in the cost of capital, and which are not. A cornerstone of modern financial economics is that much of the risk that is associated with the returns to a particular asset can be eliminated at no cost, merely by holding that asset together with a portfolio of other assets. In particular, by the holding of a well-diversified portfolio of assets, an investor can mitigate the risk that is associated with the events that are unique to a particular asset at minimal or no cost.

Diversification cannot eliminate all risk, however. This is because part of the volatility in expected returns may arise from economy-wide events that affect all assets, albeit some more than others. This portion of the risk is often referred to as non-diversifiable risk, and the degree of risk associated with a particular asset depends upon the extent to which the returns expected from that asset are affected from these economy-wide events.

The important implication of diversification is that the mere act of holding a diversified portfolio of assets rather than a single asset will eliminate a substantial portion of the risk, at no cost to the investor. It follows that, in a competitive capital market, an investor would not be able receive compensation for bearing diversifiable risk. The implication of diversification for the cost of capital is most clearly stated by Brealey and Myers, a leading finance theory text:

> [t]here are two kinds of risk - those you can diversify away and those you can't. You can measure the non-diversifiable, or market, risk of an investment by the extent to which the value of the investment is affected by the changes in the aggregate value of all the assets in the economy. This is called the beta of an investment. The only risks that people care about are the ones they can't get rid of - the non-diversifiable ones. This is why the required return increases in line with its beta.[66]

The beta of a particular asset (as used in the CAPM) is a measure of its level of systematic risk, relative to that of other assets. That is, the beta of an asset will reflect the relative sensitivity of an individual asset to economy-wide economic factors.

[66] Brealey and Myers, *Principles of Corporate Finance*, Fourth Edition McGraw-Hill Companies Inc, 1991, page 916.

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GGT is not a publicly listed company and does not trade its shares on the stock exchange. Consequently GGT, with assistance from the Macquarie Bank, estimated a proxy beta.

The estimation of a proxy beta is made difficult by the need to identify publicly listed companies that have similar risk profiles to that of the GGT and whose betas can be used to estimate the proxy beta. GGT considers that as a pipeline service provider it is unique and that there are no other companies that provide a comparison:

- GGT Section 7.4.3.2 Access Arrangement Information

  The GGT is unique in a number of ways. There is no similar asset either in Australia or overseas that could form a basis for comparison, and there is no identifiable asset class that reflects the same market risks on an indisputable basis. The GGT stands alone as a gas infrastructure asset, and should not be considered to have the same risk exposure as a transmission pipeline which serves diverse and mature markets.

  The GGT is essentially dedicated to supplying the mining industry in a specific geographic area. It supplies energy to a small number of resource projects. Future returns volatility is influenced by the tenure of these contracts and the expected changes in demand for gas over time in the Goldfields region. This volatility excludes the impact of the regulatory uncertainty on tariff levels. For the Goldfields Gas Pipeline, exposure to market risks is greater than those of a typical gas distribution network due to the number of customers, the customer demand profile, and customer fuel switching costs. These facts are inescapable.

- GGT Section 8.2 Access Arrangement Information

  The Goldfields Gas Pipeline faces current and potential future competition from other pipelines. The Mid West Pipeline represents a potential but tangible alternate means of gas transport to areas west of Leinster and Leonora. The proposed Geraldton to Mount Margaret pipeline would, if constructed, result in a third potential supplier of gas transport services to the region. If such competition eventuates, it will create the most competitive gas transmission market in the country.

  Unlike many other pipelines in Australia, the Goldfields Gas Pipeline does not currently hold long term transport contracts. Thus, in order for it to survive in the long term, the Goldfields Gas Pipeline must successfully compete against both existing and potential new pipelines and alternate fuels, and retain as its customers viable mining operations. This last consideration is critical. Virtually all of the Goldfields Gas Pipeline's load supplies mining operations which compete in world markets. Thus, the pipeline faces competitive pressures which are greater than virtually all other Australian pipelines.

  These circumstances mean that the Goldfields Gas Pipeline faces a business environment which is substantially different from that which applies to the majority of Australian pipelines. It is also a different environment to that assumed by the Code.

  Therefore, it is not appropriate to evaluate the Goldfields Gas Pipeline against criteria which are applicable to pipelines which serve major population centres and their diversified markets. Ultimately, the Goldfields Gas Pipeline will stand or fall on its ability to compete for energy transport under conditions of business risk which are greater than those facing virtually all other natural gas pipelines in Australia.

In deriving its proxy beta, GGT gave consideration to:

- the weighted average equity beta of customers using the Goldfields Gas Pipeline. GGT calculated this equity beta by weighting those of its customers reflecting their

relative importance in the use of the Goldfields Gas Pipeline. The calculated value of this weighted average equity beta is 1.6509;

- an equity beta of 1.3282 calculated for the Goldfields Gas Pipeline by Macquarie Bank prior to the pipeline's construction based on 20-year data of selected mining companies; and
- an equity beta of 1.543 calculated using the same weighting principles as those used by Macquarie Bank, but for the 4-year period up to and including June 1999.[67]

On the basis of the analysis presented in section 7.4.3.2 of the Access Arrangement Information, GGT concluded that a representative range for a proxy beta is 1.0 to 1.54 and selected 1.4 as the value for determining the Reference Tariff for the Goldfields Gas Pipeline.

Submissions from Interested Parties

✎ Hon Mark Nevill MLC

> It seems wrong to average the main customers' betas and then conclude that the figure represents the beta for the Goldfields Gas Pipeline. Diversification of customers would reduce the risk below an average based on the covariance of the various companies' risk to that of the market and each other.

✎ North West Shelf Gas

> In calculating the Weighted Average Cost of Capital for the GGTP, a beta of 1.4 has been proposed. This is broadly based on linking the risk (and therefore betas) of the mining companies that use the GGTP to that of the pipeline. As far as we are aware this derivation of beta for an onshore gas transmission pipeline is without precedent. It would seem that such a derivation… does not take into account the fact that the pipeline has a fee structure incorporating a 76% fixed reservation fee paid on User's Maximum Daily Quantities under medium to long term contracts. It would seem that there is a high degree of certainty that the majority of pipeline revenue will be paid whether or not the mining companies use their pipeline capacity or not.
>
> The potential for competition from diesel also does not take into account the medium long term nature of most gas supply contracts… that often have minimum volume commitments that discourage switching between fuels at short notice. All of the above factors… suggest a more realistic and acceptable beta value of around 0.65 to 0.85, as widely used in other regulatory decisions for onshore gas pipelines in Australia, be adopted.

Where shares are not traded for a company, equity betas are generally determined by reference to other companies with similar systematic (non-diversifiable) risk profiles. However, comparisons are made on the basis of asset betas rather than equity betas to account for differences in debt to equity ratios between companies. Generally, this is taken to mean other firms in the same industry.

The approach proposed by GGT of basing its equity beta on those of its customers assumes that those companies have risk profiles comparable or at least relevant to those of GGT. The Regulator is mindful of the concerns raised in submissions that the risk profiles of the customers that use the Goldfields Gas Pipeline selected for estimating a proxy beta for GGT are not consistent with those of a pipeline service provider. In these circumstances the risk profiles of GGT's customers would not provide a sufficiently sound basis for deriving a proxy beta for GGT.

[67] GGT advise that a 4-year period is recommended by the Australian Graduate School of Management.

The Regulator therefore considers that an assessment of asset betas for companies within the gas pipeline industry remains appropriate. GGP has commented that it considers itself to bear substantially more risk than other Australian pipelines. In assessing this claim, the distinction between non-diversifiable and diversifiable risk needs to borne in mind. In particular, the Regulator notes that many of the risks that GGP has raised as particularly important to it could be characterised as largely diversifiable risks. For example, a number of the potential events that would give rise to these risks would only affect a small geographic area. These risks could be largely eliminated by investors in the GGP also holding shares in assets in other Australian States. Notwithstanding, the Regulator recognises that the Goldfields Gas Pipeline may face higher systematic risk than some of the other pipelines operating in Australia.

Although the use of asset betas obviates issues related to different capital structures, the issue of finding a suitable pool of entities with comparable systematic risk profiles remains. The Regulator concurs with the views expressed in submissions that mining companies do not provide a reasonable set of companies for comparison purposes, but rather other infrastructure and energy companies should form the basis for comparison. Since there are few comparable infrastructure entities listed on the Australian Stock Exchange, regulatory practice in Australia has been to make use of publicly available beta estimates for firms that are operating overseas. However, differences in the composition of equity markets between countries and differences in the regulatory regimes within which regulated businesses operate can affect the level of systemic risk that is borne by businesses that could be used for comparison purposes. Table 19 below provides examples of recent asset betas calculated for international energy businesses.

Table 19
Selected Asset Betas Worldwide Examples

Source	Industry Group/Firm	Asset Beta Range
CS First Boston (1997)	8 US gas distribution companies	0.26 – 0.48 (0.36)
	6 US gas transmission companies	0.35 – 0.61 (0.50)
	3 UK electricity distributors	0.97 – 1.39 (1.14)
	Allgas	0.11
	AGL	0.56
	Average for gas distribution	0.50
	Average for gas transmission	0.45
Macquarie Risk Advisory Service (1998)	22 international electricity distribution companies	0.25 – 0.85 (0.45)
	17 international gas distribution companies	0.25 – 0.75 (0.40)
	Allgas	0.30
	AGL	0.40
	Average for distribution businesses	0.35 – 0.50
IPART (1998)	Telecommunications	0.41
	Infrastructure and Utilities	0.46
	Allgas	0.53
	AGL	0.46

There is some evidence that the asset betas for businesses operating under incentive-compatible regulation are likely to be higher than asset betas for businesses operating under more conventional rate-of-return regulation. The ranges for asset betas that have been adopted by regulators in Australia in recent decisions and those by UK regulators for comparable industries are indicated in Table 20 below. Table 20 also shows the form of regulation applicable.

Table 20
Asset Betas Adopted by Australian and UK Regulators

Gas Regulatory Decisions	Asset Beta Range	Form of Regulation
ORG Final Approval on Victorian Gas Distribution	0.55	Price cap
ACCC Final Decision on Victorian Gas Transmission	0.55	Price cap
IPART Great Southern Network Final Decision	0.40 – 0.50	Price cap
IPART Albury Gas Company Draft Decision	0.40 – 0.50	Price cap
ACCC AGL Central West Pipeline Final Decision	0.60	Price cap
ACCC Moomba to Adelaide Pipeline System Draft Decision	0.50	Price cap
ACCC Moomba to Sydney Pipeline System Draft Decision	0.50	Price cap
Western Australian Independent Gas Pipelines Access Regulator Final Decision on the Parmelia Pipeline	0.65	Price cap
Western Australian Independent Gas Pipelines Access Regulator Draft Decision on the Tubridgi Pipeline System	0.65	Price Cap
Western Australian Independent Gas Pipelines Access Regulator Final Decision on the Mid-West and South-West Gas Distribution Systems	0.55	Price cap
Electricity Regulatory Decisions	**Asset Beta Range**	**Form of Regulation**
ACCC TransGrid Draft Decision	0.45	Revenue cap
IPART NSW Electricity Distributors / Transmission Draft Decision	0.35 – 0.50	Revenue cap
UK Regulatory Decisions	**Asset Beta Range**	**Form of Regulation**

Gas Regulatory Decisions	Asset Beta Range	Form of Regulation
Ofgas/MMC Review of Transco (the UK transmission company)	0.45 – 0.6[68]	Price cap
Offer Draft Decision on UK Electricity Distributors	0.70[69]	Price cap

- Anaconda Nickel Ltd

  Anaconda feels the value for the equity beta for GGT should be 1.0. One important point to note is the decision for the Parmelia Pipeline had an equity beta of 1.0. This pipeline was subjected to a much larger risk from another pipeline supply than the Goldfields Gas Pipeline.

- Western Power

  The value of 1.4 for this variable [equity beta] is higher than for past decisions, IPART range is 0.9-1.1 and OffGAR's Draft Decision on Parmelia is 1.0.

In considering the equity beta of 1.0 that was estimated for the Parmelia Pipeline in the Draft Decision for that pipeline, it is necessary to recognise that a different methodology was used which when transformed gives an asset beta of 0.65 as reported in the Final Decision for the Parmelia Pipeline and reported in Table 20 above.

- Anaconda Nickel Ltd

  Fuel on fuel competition is limited. Operating gas turbines along the GGP may well be able to consume diesel as an alternative, the decision to do so is not so simple as merely operating a single switch as the owner of the gas turbine needs to consider their pre-existing capacity bookings with the GGT. Anaconda studies on the Mid-West Pipeline indicates that it is too small to provide any meaningful competition to the GGP.

- WMC Resources

  Other pipelines have a similar degree of exposure to a small number of customers:

  - The Ballera to Mount Isa pipeline depends on the future of the copper/lead/zinc and fertiliser industries with a small number of players.
  - The Palm Valley to Darwin pipeline has only two major customers.
  - The DBNGP has well over 50 percent of its throughput dependent on the fortunes of the alumina industry.

[68] Monopolies and Mergers Commission, *BG plc: A Report under the Gas Act 1986 on the Restriction of Prices for gas Transportation and Storage Services* (1997).

[69] Office of Electricity Regulation (UK), *Reviews of Public Electricity Suppliers 1998 to 2000: Distribution Price Control Review Draft Proposals*, August 1999. Offer used an equity beta of 1.0 with a gearing level of 50%. The high assumed asset beta comes from it using a debt margin of 1.4% with a mid-point equity premium of 3.5%, which implies a debt beta of 0.40 (using the method for estimating the debt beta discussed earlier). A more reasonable debt beta – say, 0.20 – would give a much lower estimated asset beta (in that case, of 0.6).

- AlintaGas

  GGT suggests the circumstances that apply to the GGT pipeline are unique within Australian Transmission pipelines. GGT uses this uniqueness to propose risk factors such as an equity beta of 1.4 that AlintaGas considers are excessive.

The issues raised in submissions relating to the existence of other gas pipelines having few customers or whose throughput volume is concentrated among a few customers needs to be taken into account.

- AlintaGas

  GGT states that it is a contract carriage pipeline. As such, GGT requires users to contract for firm capacity. In so doing, GGT significantly reduces its own risks by transferring market risks onto the mining companies that use the GGT pipeline. Furthermore, the Toll Charge and Capacity Reservation Charge are fixed charges payable monthly, whether or not the User delivers or accepts gas under the Service Agreement.

  Mining companies tend to have relatively low gearing ratios than pipeline operators. There is thus less risk that the mining companies will default on their bank loans and hence less risk that they will default on their commercial commitments with GGT. In addition, GGT contracts with a number of mining companies who do not produce all the same minerals. This provides GGT with supply diversity and further insulates GGT from risks faced by the individual (mining) companies.

GGT has mitigated its risk exposure through the Reference Tariff mechanism by ensuring that a large proportion of revenue is generated from fixed charges and therefore is less dependent on throughput. In addition, indications are that the greater proportion of contracted capacity on the pipeline is on the basis of medium to long term contracts in excess of 5 years duration.[70] Hence, the exposure of GGT to economic fluctuations in the resources sector has been reduced.

- Treasury, Office of Energy and Department of Resources Development

  Theoretically, beta values are intended to represent the variability between the earnings of a particular asset against returns on a standard asset. They are not meant to reflect specific risks that are able to be hedged or minimised by diversification. Firm specific factors could be accounted for by appropriate adjustments to projected earnings and should not be factored into the cost of capital. However, a clear distinction needs to be made to avoid double counting.

  The Regulator is encouraged to consider the appropriateness of the estimate and to nominate a preferred formula for deriving equity betas from other parameter inputs (ie the asset and debt betas and assumed capital structure).

  The most meaningful comparison between the beta values of companies or industries is done by comparing the asset betas. If a standard leverage ratio is assumed, estimates of an appropriate equity beta can then be derived from a levering formula since the debt beta is discernible from the allowable risk premium. However, caution needs to be exercised in deciding upon an appropriate levering formula so as to derive the appropriate equity beta.

- Treasury, Office of Energy and Department of Resources

  In conducting his analysis (on risk), the Regulator may wish to consider the following issues in addition to the matters raised by the GGT:

[70] Energy Western Australia 2000, WA Office of Energy, p36.

- The pipeline was recently sold for $624 million, or about 140 percent of the total establishment costs of the pipeline.
- The fact that the new owners are energy "utilities" and not mining companies.
- The opportunities to diversify the end user market in the context of major electricity generating assets.
- With its limited capacity and location the second pipeline (the Mid West pipeline) would only be able to compete for a limited part of the GGT market. Pipeline on pipeline competition exists for a number of pipeline systems.
- Whether competition from alternative fuels can be claimed to constitute a "unique" business risk for the pipeline. For example the transmission pipelines supplying the South West of the State are facing competition from LPG and electricity.
- Given the energy intensive nature of the industry serviced by the pipeline, a reduction in the reference tariff may be able to increase the viability of users and potential users and thus reduce the business risks for the pipeline.

✎ Treasury, Office of Energy and Department of Resources Development

> It is noted… the methodology for dealing with firm-specific risk requires either adjustment to the relevant forecasts for input into an NPV calculation or adjustments to the allowed cost of capital. Again, in the context of capacity assumptions, the Regulator is encouraged to use this opportunity to clarify his preferred methodology for dealing with such risks.

GGT has proposed and the Regulator has accepted the use of the CAPM methodology to calculate Rates of Return on capital. The CAPM methodology accounts for systematic (diversifiable) risk (eg risk that is not specific to the Goldfields Gas Pipeline). As such, the CAPM methodology does not make allowance for adjustments to the cost of capital to account for risk that is specific to the Goldfields Gas Pipeline. As discussed above, firm-specific risk is not relevant as these risks can be eliminated by investors holding a well-diversified portfolio of assets.

The implication that only economy-wide events affect the cost of capital does not imply, however, that events that are unique to individual entities are irrelevant. In particular, the cost of capital for an asset is the economic return that investors would require, on average, for investing in that asset. Accordingly, the projection of the average return associated with an asset requires all potential events to be taken into account, irrespective of whether these events are considered to give rise to diversifiable or non-diversifiable risks.

In principle, this implies that the expected cost or value of all possible events over the period of the price controls should be taken into account in revenue and cost forecasts when the price controls are determined. However, it has been argued that, in practice, the concerns about the "down side" events for regulated companies are often overstated.[71] The reasons for this include the following.

1. Most utility firms have insurance for major property damage, public liability and other types of down side events, and the cost of premiums typically included in cost forecasts.

2. Many types of unique risks just imply that firms have a higher cost level - eg more maintenance staff to repair damage.

[71] See, for example, ORG (2000), *Electricity Distribution Price Determination 2001-2005*, Vol 1, pp326-328.

3. The regulatory regime itself provides some insurance against property damage. This is because capital expenditure undertaken to repair assets is rolled-in to the regulatory asset base at the next review, and so the only loss to the firm is the financing cost in the meantime.

Nevertheless, the issue of non-diversifiable risk needs to be considered in relation to the particular regulated entity. To the extent that an adjustment (upward or downward) is required to ensure that the entity can, on average, expect to earn the WACC, this should be done through adjustments to the entity's cash flows.

- Treasury, Office of Energy and Department of Resources Development

> It is noted that previously a value within the range of 0.06 and 0.12 [for the debt beta] has been assumed to be reflective of industry standards but that the debt beta is derived from the ratio of allowable debt margin to the market risk premium. Firm specific factors leading to a higher cost of debt need to be considered.

GGT did not provide an estimate of the debt beta in the Access Arrangement Information. The Regulator calculated the debt beta for GGT using the relevant formula discussed above.[72] This yields an implicit debt beta of 0.27 on the basis of the parameters proposed by GGT. Using the parameters estimated by the Regulator yields a debt beta of 0.2.

- The Chamber of Minerals and Energy

> The Chamber accepts that the risk profile of GGT need not necessarily be seen as the same as other gas pipelines and, indeed, regulatory decisions are already recognising differences between pipelines as allowed for by the Code. The Chamber makes the following observations on this: the lack of long term contracts, may, but does not necessarily translate into a higher degree of risk; in addition,…there are a number of prospective developments in the region; and the prospect of future competition is not a valid argument for earning above normal returns in the interim. The significance of competition is that it obviates the need for future regulation, allowing returns to be decided in the market.

Conclusion

Having regard to the evidence provided from observed equity betas and the ranges for the asset betas that have been adopted by Australian regulators to date, the Regulator considers that a reasonable range for the asset beta of an Australian gas transmission business is 0.45 to 0.65. Given the above discussion on risks faced by GGT, the Regulator considers that the asset beta for the Goldfields Gas Pipeline should be 0.65.

Assuming a debt to equity ratio of 60:40 assessed as appropriate by the Regulator for GGT, an asset beta of 0.65 and a debt beta of 0.2, gives an equity beta of 1.33 as compared to an equity beta of 1.40 proposed by GGT.

5.7.9 Taxation

There are two main taxation issues relevant to the determination of the WACC:

[72] See page 132 of this Draft Decision above.

1. what method should be used to derive an entity's assumed tax liabilities to be included as part of the revenue stream used in determining the Reference Tariff;[73] and
2. what value should be assumed for franking credits.

5.7.9.1 Tax Rate

The models drawn from finance theory for estimating the cost of capital generally deliver an estimate of the required after tax return to providers of funds. In contrast, however, the revenue benchmarks that are used to determine price controls for regulated entities reflect a pre-tax revenue stream. Inevitably, therefore, regulators are constrained to make an assumption about the expected taxation liabilities of the regulated entity. If the cost of taxation is overestimated, then the target revenue would be expected to provide the regulated entity with a return that is higher than market requirements. Conversely, if the cost of taxation is underestimated, then the target revenue would be expected to provide the regulated entity with a return that is below market requirements.

An important issue for Australian regulators, and one that has generated some debate, has been whether the allowance for the cost of tax should be based upon a 'simple assumption' about the taxation system (a conversion of an after tax WACC into a pre-tax WACC using the statutory tax rate is an example of a simple assumption), or whether the allowance for tax should be based upon an explicit estimate of the cost of tax. The effective taxation rate (actual taxation liability as a proportion of regulatory profit) may differ from the statutory taxation rate for several reasons including the divergence between economic depreciation and taxation depreciation.

In turn, where a 'simple assumption' has been made, there has been lively debate about which of the possible conversion methodologies are likely to provide a better benchmark allowance for tax. Where explicit estimates of the cost of tax are used, there has been an issue about whether this estimate should reflect the taxation liabilities over the forthcoming regulatory period, or whether it should reflect a long term average taxation liability.

IPART, IPARC and SAIPAR have used a simple assumption about the tax system (ie having utilised one or more of the available methodologies for converting an after tax WACC into a pre-tax WACC). While the ACCC and ORG have made use of similar simple assumptions in their 1998 determinations, more recently they have made explicit estimates of the cost of tax over the forthcoming regulatory period.[74] O*ff*GAR has also previously used the simple approach based on the forward transformation method (described further below).

[73] Tax liabilities can be calculated either by making explicit assumptions about the tax arrangements applying to the entity through cash flow calculations or simplified assumptions may be made relating to the effective tax rate assumed in the WACC.

[74] More recently the ACCC has adopted an approach referred to as normalisation. The impact of normalisation is that the prices paid by customers reflects a long term average tax rate, but the economic returns of the regulated entity reflect the short term estimate of the cost of tax.

Access Arrangement Proposal

GGT has used a simple forward transformation methodology to make allowance for the cost of tax.[75] Under this approach, the after tax nominal (Officer) WACC discussed earlier[76] is estimated, which is then "grossed-up" according to the assumed statutory tax rate and adjusted for inflation to derive the pre-tax real WACC.

Submissions from Interested Parties

- Treasury, Office of Energy and Department of Resources Development

  The Regulator is encouraged to consider whether an average tax rate to reflect the pending staged reduction of the corporate tax rate, in the absence of other information, should be assumed to prevail over the life of the Access Arrangement. For example, an average rate of 30.8 percent would reflect the relevant rate as at 1 July 2000, where one year would be spent subject to a 34% tax rate and four years subject to a 30% tax rate.

- North West Shelf Gas

  The company taxation rate proposed is 36 % rather than 30%, which is most likely to be paid during the majority of the Access Arrangement period as a result of the Federal Government's changes to the company taxation rate.

- Anaconda Nickel Ltd

  GGT have used a company tax rate of 36% in its assessment. This is considered to be inaccurate and misleading with the company tax rate to drop to 30% within the period of the access agreement. Anaconda feels a value of 32% is more appropriate for the company tax rate. This will reflect the impact of the reduction for the last three years of the proposed Access Agreement.

The Regulator has given consideration to adopting an effective tax rate, based on a short-term estimate of the cost of tax, for the purposes of determining Reference Tariffs for GGT. However, despite the potential advantages of using an explicit estimate of the cost of tax, the Regulator is mindful that the implementation of the explicit cost of tax approach would require additional and specific research. In the absence of studies demonstrating the significance of any bias associated with the use of the forward transformation, the Regulator considers that this approach, which has been used to date, is appropriate for the purposes of this Draft Decision.

The Regulator recognises the changes in corporate taxation rates that will occur over the Access Arrangement Period for the Goldfields Gas Pipeline: a reduction from 36 percent to 34 percent for 2000/01, and to 30 percent thereafter. For the purposes of this Draft Decision, the Regulator has determined an average taxation rate over the Access Arrangement Period until 31 December 2004 of 31.4 percent. Since the Access Arrangement Period is expected to extend beyond 31 December 2004, the average rate of taxation will need to be adjusted in the Final Decision once the exact period of the Access Arrangement is known and additional information is provided by GGT to allow the necessary financial calculations.

[75] AAI section 7.4.10.

[76] See p120 of this Draft Decision.

5.7.9.2 Valuation of Franking Credits

Franking credits are an allowance under the Australian taxation system that permit dividends paid to shareholders to be exempt from personal income tax in recognition of company tax having already been paid on profits from which the dividends are paid. The typical practice amongst Australian regulators (following the standard practice of finance practitioners) is to reduce the WACC to recognise the benefits that shareholders gain from franking credits. This is done by incorporating an adjustment factor referred to as "gamma", which reflects the value of franking credits created as a proportion of their face value.

Access Arrangement Proposal

GGT has proposed a gamma value of 0.3 for the determination of the WACC, stating that this is the mid point of a "realistic range" of 0.2 to 0.4.

Submissions from Interested Parties

- Western Power

  Gamma, at 30 percent is different to many other decisions made in the past.

- Treasury, Office of Energy and Department of Resources Development

  A gamma value of 0.5 is more representative of industry standards.

- North West Shelf Gas

  The value of gamma is 30% rather than the 50% widely used in other regulated outcomes for onshore gas transmission pipelines, such as the work of ORG.

- Anaconda Nickel Ltd

  GGTJV propose that a gamma factor of 0.3 is appropriate. This is at the low end of the range on several decisions, and below the 0.5 laid out in the draft decision for the Parmelia pipeline. The gamma factor is consistent with GGTJV's earlier comments about ability of overseas shareholders to access that benefit. This is irrelevant to an Australian asset.

  When considering an appropriate gamma factor the regulator must form a view on best practice. It is necessary to examine the structure for other similar organisations, as well as best practice, when reviewing and setting this variable. A movement in the gamma factor of 10% can change the WACC by 0.5%, a significant impact.

There have been a number of empirical estimates of the value that investors place upon franking credits in Australia. The predominant methodology for estimating the value of franking credits has been an analysis of the drop in the value of a share measured immediately before and after a dividend is declared. The drop in share price should represent the market's valuation of the dividend and any attached franking credits. Empirical studies in Australia have generated a range of estimates for the value of franking credits (once distributed), with the midpoint value about 70 percent.[77]

[77] These studies include: Hathaway and Officer (1992), *The Value of Imputation Credits*, unpublished manuscript, Finance Research Group, Graduate School of Management, University of Melbourne; McKinsey

It has also been common regulatory practice for a further downward adjustment to be made to the potential value of franking credits to arrive at the gamma value, to allow for the fact that not all franking credits may be distributed in the year in which they are created. Taxation statistics analysed by Officer and Hathaway suggest that only about 80 per cent of franking credits are distributed in the year in which they are created. The Office of the Regulator General in Victoria and the ACCC used an adjustment in the range 70-80 percent in their 1998 gas decisions.[78] Combined with a value for franking credits of about 0.70, this created a gamma value of between 0.49 and 0.56. This supports the use of a value of 0.50, which has typically been adopted (Table 21).

Table 21
Assumed Gamma Values for Gas Pipeline Systems in Australia

Pipeline	Draft/Final Decision
Victorian Gas Transmission Pipelines Australia (Final Approval)	0.5
AGL Gas Networks (Final Decision)	0.3-0.5
Central West Pipeline (Final Decision)	0.5
Moomba to Adelaide Pipeline System (Draft Decision)	0.5
Moomba to Sydney Pipeline System (Draft Decision)	0.5
AlintaGas Distribution Networks (Final Approval)	0.5
Parmelia Pipeline (Final Approval)	0.5
Tubridgi Pipeline System (Draft Decision)	0.5
ACCC AGL Central West Pipeline (Final Approval)	0.5

Two factors suggest that the values for gamma that have been adopted by regulators to date may be on the low side and that the value of franking credits is higher than previously thought.

1. A recent empirical estimate of the market value of franking credits, which adopted a methodology for estimating the value of franking credits that reduced the 'noise'

and Company, (1994), *Capturing Value from Dividend Imputation*; and Brown & Clarke (1993) *The Ex Dividend Day Behaviour of Australian Share Prices Before and After Imputation*, unpublished manuscript, University of Western Australia.

[78] ACCC, *Final Decision, Access Arrangement by Transmission Pipelines Australia Pty Ltd and Transmission Pipelines Australia (Assets) Pty Ltd for the Principal Transmission System*, Oct 1998, page 55, ORG, *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*, Oct 1998, page 213.

associated with the estimation process. This study has produced a far higher estimate of their value than the previous studies.[79]

2. Concerns have recently been raised that adopting a gamma assumption that reflects anything less than full utilisation of franking credits is inconsistent with the CAPM model being employed.[80] In particular, it has been argued that as the version of the CAPM being used is the domestic version, consistency requires an assumption that all investors are Australian, and thus can utilise franking credits fully.[81]

Notwithstanding the above, on the available evidence, the Regulator considers that a gamma value representing the dividend imputation factor of 0.5 is appropriate for the purpose of estimating the cost of capital associated with the regulated activities of the Goldfields Gas Pipeline. This is consistent with section 8.31 of the Code, which requires the Regulator to consider standard industry structures for a going concern and best practice.

5.7.9.3 Conversion of Post-Tax WACC to Pre-Tax WACC

The conversion of the post-tax WACC to the pre-tax WACC is undertaken by adjusting for the corporate tax rate, including the effects of imputation of franking credits.

In most decisions to date, Australian regulators have based their assumptions about the cost of tax on two simple transformations of a post-tax WACC to a pre-tax WACC:

1. forward transformation, involving division of the post-tax nominal WACC by one minus the statutory taxation rate, and then adjusting for inflation (using the Fisher transformation[82]) to derive the pre-tax real WACC; and

2. reverse transformation, involving first adjusting the post-tax nominal WACC for inflation, and then grossing up the post-tax real WACC by one minus the statutory taxation rate.

Australian regulators in decisions for gas and electricity systems have used the approaches described in Table 22 to correct for the cost of taxation.

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[79] Walker, S and G Partington (1999), 'The Value of Dividends: Evidence from Cum-Dividend Trading in the Ex-Dividend Period', *Accounting and Finance*, Vol 39, pages 275-296. The difference in this study was that its estimate of the value of franking credits was based on the difference in the price of shares that were trading simultaneously cum-dividend and ex-dividend. The previous studies had measured the drop-off in the share price between two periods of time (namely cum-dividend and ex dividend periods). The simultaneous measurement of cum-dividend and ex-dividend share prices implies that many of the other factors that affect share prices are removed automatically from the analysis.

[80] Lally, M (2000), 'The Cost of Equity Capital and its Estimation', *McGraw Hill Series in Advanced Finance*, Vol 3, pages 10-11.

[81] An alternative approach would be to use an international version of the CAPM, and thus assume that foreign investors determined the equilibrium cost of capital. The main implications of this model would be that 'gamma' would be zero, but that the market risk premium and possibly the proxy beta values would be lower. The ORG addressed this issue in some detail and concluded that the domestic CAPM was likely to predict a higher cost of capital than would the international CAPM: ORG, *Electricity Distribution Price Determination 2001-2005*, Vol 1, p317.

[82] $Real\ WACC = \frac{1 + nominal\ WACC}{1 + i} - 1$, where i is the inflation rate.

Table 22
Approaches to the Derivation of Pre-Tax Real WACC for Gas Transmission Pipelines

Pipeline	Approach	Forward Transformation pre-tax WACC	Adopted pre-tax WACC
Victorian Transmission Pipelines Australia (Final Approval)	Used the forward and reverse transformations to generate a range for the WACC, and chose a value towards the upper end of this range.	8.0%	7.75%
AGL Gas Networks (Final Decision)	Used the forward and reverse transformations to generate a range for the WACC, and chose a value towards the upper end of this range.	8.0%	7.75%
Central West Pipeline (Final Approval)	ACCC determined the pre-tax real WACC as the IRR from the cash flow analysis used. The pre-tax real WACC is consistent with a post-tax nominal cost of equity of 15.38%.	Na	7.78%
Moomba to Adelaide Pipeline System (Draft Decision)	ACCC determined the pre-tax real WACC as the IRR from the cash flow analysis used. The pre-tax real WACC is consistent with a post-tax nominal cost of equity of 13.05%.	Na	6.70%
Moomba to Sydney Pipeline System (Draft Decision)	ACCC determined the pre-tax real WACC as the IRR from the cash flow analysis used. The pre-tax real WACC is consistent with a post-tax nominal cost of equity of 13.0%.	Na	7.0%
Parmelia Pipeline (Final Approval)	Used the forward transformation and single values of other inputs to generate a point estimate for the WACC.	8.1%	8.1%
Tubridgi Pipeline System (Draft Decision)	Used the forward transformation and single values of other inputs to generate a point estimate for the WACC.	8.2%	8.2%

General regulatory practice is not to use either the forward transformation, or the reverse transformation, in isolation to determine the pre-tax WACC. Rather, these have generally been held as a range that accommodates possible assumptions about the taxation system in so far as it affects the estimate of the WACC.

For the Goldfields Gas Pipeline the Regulator has chosen to utilise the forward transformation in this Draft Decision. This reflects a view that the changes to the company taxation regime in Australia are likely to narrow the gap between the statutory and effective tax rates for infrastructure firms in Australia. It is noted, however, that there is no consistent approach to the issue amongst other Australian regulators, and that an after-tax WACC has been adopted in a number of recent decisions in Australia that explicitly allow for taxation.

5.7.10 WACC Estimation

Having discussed the methodology and input variables for calculating the WACC for the Goldfields Gas Pipeline, this section of the Draft Decision summarises the relevant variables and calculates the WACC based on those variables.

A key factor in the calculation of the WACC for the Goldfields Gas Pipeline relates to the requirement on GGT to set access tariffs that provide total revenue consistent with a rate of return which is commensurate with prevailing conditions in the market for funds and the risks involved in delivering the Reference Service.

Submissions from Interested Parties

- Hon Mark Nevill MLC

  The Goldfields Gas Pipeline probably has a risk associated with it in terms of the continuity of customers because of the volatility of the mining industry …But this region has proved remarkably resilient over the past 35 years and contains major mines and mineral resources… A WACC equal to or marginally higher than that for the Parmelia Pipeline WACC (8.3%) should be considered. A WACC of 8.3-8.5% seems reasonable.

- Normandy Mining Ltd

  The use of assumptions consistent with those of the latest ACCC Decision (Final Decision on the TransGrid NSW electricity network), along with the calculation method used in the recent regulatory decisions and allowing a factor for a slightly higher level of risk (beta) could lead to values of pre-tax real WACC of around 8 percent. This compares with values in the 7.5-7.75% range emerging from recent gas pipeline decisions. Normandy believes that an appropriate pre tax real WACC for this pipeline is of the order of 8.0-8.5 percent.

- The Chamber of Minerals and Energy

  The Chamber notes GGT's comments about the problems which may arise if rates of return are set too low. However, it considers that GGT's statements (concerning the consequences of rates being set too high, as opposed to too low) should not be seen as justification for the realisation of above normal profits. Both the mining industry in the Pilbara and Goldfields and the energy suppliers to that industry must operate efficiently in order to be competitive in global markets. If the Regulator is to err, it should be in the direction of User benefit.

- Treasury, Office of Energy and Department of Resources Development

  It is contended that a uniform practice should emerge to allow comparability between accepted costs of capital across Western Australian pipelines - and this may inform regulatory processes for other

utilities in the future. It is noted that, using all GGT's nominated inputs, use of the reverse transformation methodology reduces the quoted WACC by around 1.4%.

North West Shelf Gas

The proposed WACC of 12.2% real pre tax is considerably higher than the 7.0-7.5% found applicable to other regulated pipelines. We request that the Regulator determine a fair and reasonable WACC value for the GGP in line with that determined for other regulated on-shore gas transmission pipelines.

WMC Resources

WMC is of the opinion that the following set of assumptions are appropriate for calculating a WACC for the GGP.

Assumptions	
Market Premium	6.00%
Risk Free Rate	6.81%
Debt Premium	1.00%
Inflation Rate	3.00%
Cost of Debt	7.81%
Percent equity	40.00%
Debt Beta	0.2
Asset Beta	0.6
Equity Beta	1.20
Effective Tax Rate	30.00%
Imputation Factor (gamma)	50.00%
Calculated Parameters	
Risk Premium	6.00%
Nominal Equity Return After Tax	14.01%
Real Equity Return After Tax	10.69%
Nominal Equity Return Before Tax	16.48%
WACC- Nominal Pre-Tax	11.28%
WACC- Nominal After Tax	7.90%
Market Practice Conversion	

WACC- Real Pre-Tax	8.04%
WACC- Real After Tax	4.75%
Alternative Practice Conversion	
WACC- Real Pre Tax	6.79%
WACC- Real After Tax	4.75%

Comments on particular assumptions are:

- Given the size and stature of CMS, AGL, and TransAlta, and the evidence of the cost of loans raised in the energy industry (as documented by the ACCC, ORG and IPART), a debt premium of 100 basis points is considered appropriate in this case.
- The beta value lies at the upper range of those adopted in recent regulatory decisions and this is considered appropriate in this case due to the increased level of risk associated with this pipeline compared to others.
- Since the change in corporate tax rate from 36% to 30% now seems assured, the new rate has been assumed. The alternative is to set the WACC using the existing corporate tax rate but to review the WACC when the reduced rate comes into effect.
- Risk free rates appear to have declined since the ACCC last analysed them and OffGAR will need to update the rolling estimate.
- The use of the assumptions listed above and the calculation method used in recent regulatory decisions leads to values of pre tax real WACC of 6.79-8.04% depending on the conversion method from nominal after tax to real pre tax. Recent regulatory decisions have selected values towards the higher end of this range.
- The ACCC has stated a preference for the use of a nominal after tax WACC, obtained directly from the CAPM with compensation for tax liabilities (net of imputation credits) determined on the basis of cash flow assessments. However, since the publication of the TransGrid Determination, there has been some considerable doubt expressed regarding the accuracy of the ACCC's calculation methodology (and concern as to the lack of transparency and complexity of the approach). WMC believes that the real pre tax WACC remains the appropriate mechanism for this assessment.

Anaconda Nickel Ltd

Anaconda recognise there are a large number of variables that impact on the cost of capital calculation, and subsequently on tariff charges. One factor missing from GGTJV submission is any sensitivity analysis showing the impact of changes to key variables. Consistently the GGTJV has made assumptions for all variables which are at the high end of plausible ranges, significantly in their favour and leading to higher reference tariffs.

The rate of return calculated using the input variables assumed by the GGTJV leads to a value of 12.23% for the pre-tax real WACC. This value is significantly higher than that currently being reached by the Eastern States regulators (a range of 7.5 to 7.75%). It is also significantly higher than the 8.3 percent the WA Regulator reached in his draft decision for the Parmelia pipeline.

Anaconda have made assessments based on their understanding of the variables and have arrived at a value of 8.26% for the pre-tax real WACC. This is considerably less than the GGTJV calculation and close to the results of recent ACCC and IPART decisions. It is slightly lower than the 8.3 percent arrived at by the WA Regulator for the Parmelia pipeline.

The following table summarises the differences:

		GGTJV Case	Anaconda Assessment	Parmelia Pipeline
r_f	Nominal risk free rate	6.70%	7.20%	6.30%
r_m	Australian market risk premium	6.50%	5.50%	6.00%
r_d	Pre-tax debt rate	8.95%	8.2%	8.30%
β	Systematic risk of equity	1.40	1.00	1.00
r_e	After-tax cost of equity	15.80%	12.70%	12.30%
γ	Franking credit utilisation	30%	50%	50%
E	Market value of equity	50%	40%	40%
D	Market value of interest bearing debt	50%	60%	60%
V	Market value of entity	100%	100%	100%
t_c	Corporate tax rate	36%	32%	36%
F	Inflation	2.5%	2.5%	2.5%
W_{tr}	**Pre-Tax Real WACC**	**12.23**%	**8.26**%	**8.27**%

Anaconda would contend that the following items have changed since the Parmelia decision:

- Company tax rate will be lower for the majority of the Access Agreement. The calculation should be altered to satisfy this occurrence
- The risk free rate has increased in the order of 0.5 percent
- The debt premium for this project is substantially lower than that for the Parmelia pipeline, predominantly due to the reduced supply risk

The proposed GGT WACC of 12.23 percent would place an unfair burden on the end users of the Goldfields gas pipeline. Anaconda feel a value in the order of 8.26% is more appropriate and defendable using accepted financial calculation methods.

For comparison purposes, Table 23 below summarises the input variables to the WACC calculation by GGT and compares these with the variables determined and discussed in this section 5.7.

Table 23
Estimation of the Rate of Return

Parameter	Parameter symbol	Value proposed by GGT	Value proposed by the Regulator
Risk Free Rate (Nominal)	R_f	6.7%	5.35%
Risk Free Rate (Real)	R_f	4.10%	3.14%
Market Risk Premium		6.5%	6.0%
Equity Beta	b_e	1.40	1.33
Debt Beta	b_d	0.27*	0.20
Cost of Debt Margin		2.25%	1.20%
Corporate Tax Rate	T	36.0%	31.4%
Franking Credit Value	g	0.3	0.5
Debt to Total Assets Ratio	D/V	0.5	0.6
Equity to Total Assets Ratio	E/V	0.5	0.4
Expected Inflation	p_e	2.50%	2.14%

* The debt beta was not calculated by GGT. Rather, an implied debt beta of 0.27 has been imputed from the information provided by GGT.

The real pre-tax Officer WACC values for the Goldfields Gas Pipeline generated by the forward transformations and based on a value for the equity beta of 1.33 is 7.95 percent.

The range of estimates for Regulator's real pre-tax WACC of 7.95 percent is given in Table 24.

Table 24
Regulator's WACC Estimates for the Goldfields Gas Pipeline

WACC	Nominal	Real
Post-Tax (Officer)	7.05%	4.80%
Pre-Tax WACC (Forward Transformation)	10.25%	7.95%

5.7.11 Return on Equity R_e

Using the above estimates of the equity beta, risk free rate and market risk premium and on the basis of the methodology discussed in section 5.7.3, the nominal post-tax return on equity, R_e, was determined by the Regulator to be 13.3 percent, compared with 15.8 percent proposed by GGT.

The real post-tax and both nominal and real pre-tax rates of return on equity equivalent to the 13.3 percent nominal post-tax return on equity have been derived using the Fisher equation and Officer methodology. These rates of return on equity are presented in Table 25 below.

Table 25
Returns on Equity

Return on Equity	Nominal	Real
Post-Tax Return on Equity	13.30%	10.95%
Pre-Tax Return on Equity	15.80%	13.35%

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

Amendment 34

The proposed Access Arrangement and Access Arrangement Information should be amended to adopt a pre-tax real rate of return (WACC) of 7.95 percent.

5.8 DEPRECIATION SCHEDULE

The depreciation schedule relates to that depreciation during an Access Arrangement Period used to calculate Reference Tariffs and differs from historical depreciation which forms part of the Initial Capital Base calculation.

5.8.1 Access Code Requirements

Sections 8.32 to 8.35 of the Code are relevant to calculating depreciation for determining Reference Tariffs.

8.32 The Depreciation Schedule is 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***).

8.33 The Depreciation Schedule should 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 section 8.27, 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 if the IRR or NPV methodology is used.

8.34 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).

Section 8.35 requires that regard must be had to the reasonable cash flow needs of the Service Provider.

8.35 In implementing the principles in section 8.33 or 8.34, regard must be had to the reasonable cash flow needs for Non Capital Costs, financing cost requirements and similar needs of the Service Provider.

5.8.2 Access Arrangement Proposal

Asset depreciation for the Goldfields Gas Pipeline is discussed in sections 4.2 and 7.5.3.7 of the Access Arrangement Information.

Financial information on depreciation is not shown in the Access Arrangement Information, which is consistent with the Net Present Value approach for tariff determination chosen by GGT. Instead, GGT has presented cash flow information in section 7.5.3.7 of the Access

Arrangement Information from which depreciation can be imputed. However, the cash flow information presented does not relate to GGT's proposed Reference Tariff, which is that tariff proposed for introduction on 1 January 2000. Instead, the information relates to another tariff which is stated by GGT to be 22 percent higher than the intended Reference Tariff.

GGT gave consideration to three methods of depreciation commonly in use. These are declining balance, straight line, and units of production methodologies. GGT concluded that the units of production methodology is an appropriate methodology for the Goldfields Gas Pipeline, which matches the profile of capital recovery to the profile of revenue received over time. GGT submitted that the units of production methodology overcomes difficulties of straight line depreciation, which assumes that revenue and hence the opportunity to recover capital is evenly distributed over the life of the asset, yet facilitates the objective of determining a Levelised Tariff.

The units of production methodology is based on throughput projections contained in Appendix C of the Access Arrangement Information which shows throughput continuing at approximately 25PJ/annum until 2013, declining to approximately 8PJ/annum by 2017 and then remaining at about that level for the remainder of the projected life of the pipeline until 2036. The throughput forecast projected by GGT is discussed in more detail in section 5.3 above and includes a copy of the chart showing GGT's forecast to the year 2036 (Figure 1).

The combined impact of the assumed throughput forecast and the use of the units of production depreciation methodology gives rise to accelerated depreciation whereby a greater proportion of depreciation would be recovered in earlier years, since throughput is projected to decline in later years.

Section 4.2.1.3 of the Access Arrangement Information assumes that, for the purposes of calculating depreciation, the economic life of the Goldfields Gas Pipeline is equal to a regulatory life of 40 years. The regulatory life of the pipeline is based on the provisions of the *Goldfields Gas Pipeline Agreement Act 1994* that allows for an initial pipeline licence of 21 years, followed by one renewal of 21 years yielding a total of 42 years. Since pipeline design and construction took just under two years, during which no revenue was derived from the transport of natural gas, GGT considered that the maximum regulatory operating life of the pipeline is 40 years (i.e. 1997 to 2036 inclusive).

5.8.3 Submissions from Interested Parties

- Normandy Mining Ltd

  These calculations appear to assume dramatic decreases in future throughput, and rely upon a residual value at the end of the access undertaking period, calculated with reference to the starting asset value, rather than on future cash flows. The residual value of $352 million is much less than the value of the pipeline as a going concern. For example, $80 million per year net cash flow (typical of the 5 year period) at a 12% discount rate over the next 30 years suggests a residual value of some $640 million.

- Anaconda Nickel Ltd

  The depreciated value after five years will be one of the boundary values for the initial capital base to be used in the next Access Arrangement. The initial capital base proposed by the GGTJV is excessive. The depreciation carried out is also excessive and creates a DORC which is comparatively too low. The correct figures are felt to be in the order of $430 million initially and around $410 million after five years. These assumptions, combined with Anaconda's WACC of 8.26%, justify tariff reductions, on existing throughput of at least 30 percent.

Normandy Mining Ltd

GGT has proposed depreciation on a "units of production" method and for a pipeline economic life of 40 years. However GGT also states that their view is that the physical life of the pipeline is as long as 70 years. Prevailing regulatory practice in Australia, plus custom and practice as well as simplicity and ease of understanding, all point towards the use of straight line depreciation based on realistic asset lives. The use of a "units of production" depreciation methodology heavily biases depreciation to the early years of operation, especially if based on the throughput profile in Appendix C (of the AAI). In addition, the 42 year period provided for in the State Agreement is no limitation as provision is made for the owners to apply for a continuation of the pipeline licence for a longer period. There can be no valid grounds for assuming that this extension would not be applied for and granted at the time.

GGT propose to use an NPV methodology, similar to that which has applied to the GGT pipeline since its inception. Such a methodology is critically dependent on throughput assumptions for future years. Normandy believes that GGT must have adopted unreasonably pessimistic assumptions for future throughput and thus derived Reference Service Tariffs that are arguably higher than can really be justified.

Western Power

The units of production method of depreciation reflects existing contracts already in place. It is felt that this method does not adequately reflect the code's intention of considering the economic life of the asset. This (methodology) is also thought not to reflect the "units of production" accounting concept in that the pipeline is not actually producing anything, it is a carrier of gas. Further investigation is required to assess the method employed.

North West Shelf Gas

It would appear that it is proposed to depreciate the ICB on the basis of pipeline throughput (units of production method). This depreciation method has been chosen rather than depreciation over the actual or economic life of the pipeline… which is normally adopted for onshore gas transmission pipelines. The units of production method would appear to result in more rapid depreciation of the ICB and to be reflected in higher tariffs. We request that the Regulator determine whether the proposed depreciation method is appropriate and what the affect of more conventional depreciation methods would have on the tariff for the reference service.

Anaconda Nickel Ltd

The asset life values used by the GGTJV are low. There is no argument provided as to why they are not similar to the figures used by Epic for the Dampier to Bunbury pipeline. The following table shows the comparison.

	GGTJV	Epic
Pipeline Assets	70	100
Metering Assets	30/50	71
Compression Assets	30/50	57
Other Assets	30/10	50

> The GGTJV have used a units of production approach to depreciation. This approach is acceptable if the predictions for future throughput are acceptable. The GGTJV future throughput predictions are extremely low, resulting in GGP assets being depreciated excessively in their early life, in turn leading to excessive tariffs and over-recovery of costs. The tariffs are particularly sensitive to the depreciation method and rate chosen. There is insufficient information provided to enable an appropriate assessment of the depreciated value. Anaconda believe there is scope for significant tariff reduction if a sensible approach to future throughput, and consequently depreciation, is taken.
>
> Levelised tariffs are an acceptable philosophy as long as the assumptions for future capacity are sensible. Pessimistic assumptions regarding future capacity will lead to an over-recovery of costs from the pipeline. This leads to higher prices for the earlier users of the pipeline, which are then allowed to escalate, and works against a competitive supply of energy.

The main issues raised in submissions include that:

- depreciation is based on the units of production methodology which, when combined with a long term forecast of declining throughput forecast, gives rise to accelerated depreciation and a low residual value at the end of the Access Arrangement Period;
- the asset life of 42 years assumed by GGT is too low; and
- the depreciation assumptions made by GGT result in higher tariffs in the earlier years.

These issues are addressed below.

Units of Production Methodology

GGT nominated the units of production depreciation methodology as being appropriate for the Goldfields Gas Pipeline as this methodology provides for capital to be recovered in earlier years when the majority of revenue is expected to be generated. GGT seeks to depreciate most of the asset value in the period to 2016.

The Regulator is of the view that while accelerated depreciation is not inconsistent with the Code, such depreciation would need to be clearly demonstrated to be consistent with the objectives for a Reference Tariff as set out in section 8.1 of the Code.

GGT has sought to justify accelerated depreciation through claims that:

- the renewal of existing transmission contracts cannot be guaranteed; and
- existing contracts do not extend beyond 2016.

As discussed in section 5.3 of this Draft Decision, the Regulator is of the view that GGT has not demonstrated any reasonable likelihood of a decline after 2016 in mining and related activities in the areas serviced by the Goldfields Gas Pipeline that could result in a decline in the market for pipeline services. Section 5.3 also makes reference to submissions from interested parties that indicate optimism about the future demand for gas transmission services over 30 and even 50 years of pipeline life.

Additionally, indications are that gas supply constraints are unlikely to be a concern during the economic life of the pipeline.[83] Even if reserves in gas fields currently serving the

[83] Energy 2000 Western Australia, p33.

Goldfields Gas Pipeline are depleted, the Goldfields Gas Pipeline can be connected to the DBNGP, providing access to significant additional reserves.

In view of the above, the Regulator considers that the use of accelerated depreciation has not been adequately justified and that the Depreciation Schedule for the Goldfields Gas Pipeline should be determined on the basis of a straight line depreciation methodology.

Asset Life

GGT has proposed an economic life for the Goldfields Gas Pipeline equal to a regulatory life of 40 years. This assumed life is based on a licencing period of 42 years less two years for pipeline design and construction during which no revenue was derived from the transport of natural gas.

The Regulator is of the view that there is no reason to presume that a licence for a pipeline would not be renewed at the end of the licence period. The Regulator is therefore of the view that the licence period is not a relevant consideration in making assumptions as to asset life for the purposes of depreciation.

In general, pipeline owners/operators in Australia estimate the technical life of gas pipelines and laterals to be between 60 and 100 years. However, as there is no commonly accepted industry standard the Regulator sought the advice of the technical consultant[84] to establish the life span of the various categories of assets for the Goldfields Gas Pipeline. Assumptions as to asset lives considered appropriate by the technical consultant are indicated in Table 26 below.

[84] Mr Michael Soltyk of Soltyk Engineering Consulting Services.

Table 26
Expected Technical Lives of Pipeline Assets

Asset Category	Life (years)	
	GGT[85]	Consultant
Pipeline & Laterals	70	70
Scraper Station	50	50
Main Line Valves	50	50
Maintenance Bases	-	50
Compressor Stations	30	30
Receipt Stations	30	30
Delivery Stations	30	30
SCADA & Communications	10	15
Cathodic Protection System	-	15
Other Assets*	10	10

* Other assets include spares, vehicles, special equipment and office equipment.

Anaconda Nickel Ltd, in its submission quoted above,[86] expressed concern that the asset life values assumed by GGT are low. The comparison of the asset lives for each asset category assessed by the technical consultant with that by GGT shows these to be the same for all but the asset category of SCADA and communications. The Regulator notes that Anaconda Nickel Ltd was comparing the technical asset lives proposed for the Goldfields Gas Pipeline with those proposed by Epic Energy for the DBNGP.[87] The Regulator will provide an assessment of the asset lives proposed for the DBNGP in the Draft Decision on the DBNGP Access Arrangement.

The information in Table 26 can be used to calculate a weighted average asset life for a pipeline. If the asset categories in Table 26 are weighted by the capital cost of each asset category, a weighted average asset life of 65 years is obtained. The need for calculating a weighted average asset life arises if the units of production depreciation methodology is used. In the case of straight line depreciation, asset categories are depreciated directly on the basis of asset lives as shown in Table 26.

[85] AAI section 4.2.1.1.

[86] Refer page 156 of this Draft Decision.

[87] Epic Energy, Proposed Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, submitted to the Regulator on 15 December 1999.

In view of the above, the Regulator considers that the Access Arrangement and Access Arrangement Information should be amended to reflect a weighted average asset life of 65 years and not 40 years as proposed by GGT.

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

Amendment 35

The Access Arrangement and Access Arrangement Information should be amended to reflect a depreciation schedule based on assumed asset lives as follows:

Asset Category	**Assumed Asset Life**
Pipelines and laterals	70
Scraper stations, mainline valves and maintenance bases	50
Compressor stations, receipt point and delivery point facilities	30
SCADA, communication and cathodic protection systems	15
Other assets	10

Depreciation Schedule

The Regulator revised the depreciation schedule for the Goldfields Gas Pipeline in accordance with revisions documented in this Draft Decision in relation to the Initial Capital Base, depreciation methodology and assumptions as to asset lives. Using the Net Present Value approach proposed by GGT for the derivation of the Reference Tariff, the corresponding depreciation over the Access Arrangement Period is $42.7 million with a residual asset value of $401.2 million.

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

Amendment 36

The proposed Access Arrangement and Access Arrangement Information should be amended to reflect a Depreciation Schedule as follows:

Year:	**2000**	**2001**	**2002**	**2003**	**2004**
Depreciation (real $million at 31 December 1999):	8.3	8.4	8.5	8.7	8.8

5.9 TOTAL REVENUE

5.9.1 Access Code Requirements

Sections 8.4 and 8.5 of the Code require that the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period (the Total Revenue) be calculated, or be able to be expressed in terms of, one of three methodologies.

8.4 The Total Revenue (a portion of which will be recovered from sales of Reference Services) should be calculated according to one of the following 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*).**

IRR: The Total Revenue will provide a forecast Internal Rate of Return (IRR) for the Covered Pipeline that is consistent with the principles in sections 8.30 and 8.31. 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 this section 8.

NPV: The Total Revenue will provide a forecast Net Present Value (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.

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 this section 8.

The methodology used to calculate the Cost of Service, an IRR or NPV should be in accordance with generally accepted industry practice.

8.5 Other methodologies may be used provided the resulting Total Revenue can be expressed in terms of one of the methodologies described above.

Section 8.6 of the Code provides that the Regulator may have regard to any financial and operational performance indicators considered relevant.

8.6 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 described in section 8.4. In order to determine an appropriate value within this range the Relevant Regulator may have regard to any financial and operational performance indicators it considers relevant in order to determine the level of costs within the range of feasible outcomes under section 8.4 that is most consistent with the objectives contained in section 8.1.

Section 8.7 of the Code requires that, if the Regulator has considered financial and operational performance indicators, he must identify the indicators and provide an explanation of how they have been taken into account.

8.7 If the Relevant Regulator has considered financial and operational performance indicators for the purposes of section 8.6, it must identify the indicators and provide an explanation of how they have been taken into account.

5.9.2 Access Arrangement Proposal

GGT has chosen the NPV methodology for determining Total Revenue. This is described in Section 7.2.1 and 7.2.2 of the Access Arrangement Information. GGT states that the NPV approach is proposed because it yields Levelised Tariffs by averaging costs over the Access Arrangement Period. Also, the NPV methodology produces a price path expressed in real terms (inflation adjusted), which is known and hence provides simplicity and predictability for Users.

Total Revenue is presented as part of a summary of cash flows in section 7.5.3.10 of the Access Arrangement Information. This Total Revenue stream is presented in Table 27 below in both nominal and real (inflation adjusted) terms. GGT's assumed inflation rate of 2.5 percent has been used to deflate nominal to real values.

Table 27
Annual Total Revenue

Annual Revenue	**2000**	**2001**	**2002**	**2003**	**2004**
	$Million	$Million	$Million	$Million	$Million
Nominal Terms	90.0	92.1	99.1	100.9	100.3
Real (31 December 1999 dollars)	87.8	87.7	92.0	91.4	88.7

On the basis of statements made in section 7.5.3.10 of the Access Arrangement Information, the annual Total Revenue stream presented in the cash flow statement is expected to exceed the revenue that would be generated from GGT's proposed Reference Tariff. However, the exact amount of this excess is unknown.

5.9.3 Submissions from Interested Parties

There were no submissions directly related to the calculation of Total Revenue.

5.9.4 Additional Considerations of the Regulator

The Regulator revised the Total Revenue calculation in accordance with revisions made to cost components as described in previous sections of this Draft Decision. The Regulator's revised cost parameters and assumptions are summarised in Table 28 below.

Table 28
Assumptions for Calculation of Total Revenue

Parameters	Assumptions
Capital Base Valuation Methodology	Depreciated Actual Cost
Initial Capital Base	$438.0 million
Rate of Return (WACC)	7.95%
Depreciation Methodology	Straight Line
Accumulated Depreciation	$42.7 million
Capital Expenditure	As Proposed in the Access Arrangement Information
Operating Expenditure	Regulator's Estimates as discussed in section 5.6 of this Draft Decision.

The Total Revenue derived on the basis of the Regulator's assumptions is presented in Table 29.

Table 29
Regulator's Assessed Total Annual Revenues
(31 December 1999 Dollars, excluding GST)

	2000	2001	2002	2003	2004
	$Million	$Million	$Million	$Million	$Million
Return on Capital	34.8	34.3	33.7	33.1	32.5
Return of Capital (Depreciation)	8.3	8.4	8.5	8.7	8.8
Non-Capital Expenditure	9.9	9.5	9.5	9.6	10.3
Total Revenue	53.0	52.2	51.7	51.4	51.6

While GGT derived a Total Revenue requirement using a Net Present Value approach, GGT proposed a Reference Tariff that is unrelated to this Total Revenue. As GGT's Total Revenue presented in Table 27 is not generated by the tariff proposed by GGT for introduction on 1 January 2000, the Total Revenue presented in the Access Arrangement

Information is not directly relevant as a comparison against the Regulator's assessed Total Revenue.

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

Amendment 37

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

Year:	**2000**	**2001**	**2002**	**2003**	**2004**
Total Revenue (Excluding GST) (Real $ million at 31 December 1999):	53.0	52.2	51.7	51.4	51.6

5.10 COST/REVENUE ALLOCATION

The Code sets out broad principles for determining the portion of the Total Revenue that a Reference Tariff should be designed to recover from sales of the Reference Service, and the portion of revenue that should be recovered from each User of that Reference Service. These principles essentially require that the charge paid by any User of a Reference Service be cost reflective, although substantial flexibility is provided.

5.10.1 Access Code Requirements

The principles for the allocation of costs/revenues between services are given in sections 8.38 to 8.43 of the Code.

Section 8.38 of the Code requires that Reference Tariffs should be designed to recover only costs that are directly attributable to the Reference Service plus a share of any costs jointly incurred in providing the Reference Service with other services.

8.38 Subject to sections 8.40 and 8.43, to the maximum extent that is commercially and technically reasonable, the portion of the Total Revenue (referred to in section 8.4) that a Reference Tariff should be designed to recover (which may be based on forecasts) should include:

(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 and is otherwise fair and reasonable.

Section 8.39 of the Code provides that if the Regulator requires a different methodology to be used for cost/revenue allocation than that proposed by the Service Provider, the Regulator must provide a detailed explanation of the methodology that is required to be used.

8.39 If the Relevant Regulator requires that a different methodology be used to determine the portion of Total Revenue to be recovered from particular Reference Services pursuant to section 8.38 than that proposed by the Service Provider and described in the Access Arrangement Information, the

Relevant Regulator shall in its decision on the Access Arrangement or revisions to an Access Arrangement concerned provide a detailed explanation of the methodology that it requires be used to allocate costs pursuant to section 8.38.

Section 8.40 of the Code addresses the allocation of Costs/Revenue between Reference Services and Rebatable Services.

8.40 Notwithstanding section 8.38, if the revenue assumed in the Total Revenue calculation under section 8.4 reflects costs (including capital costs) that are attributable to providing the Reference Service 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 (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 of the Code provides for the use of alternative approaches for allocating costs.

8.41 Alternative approaches to allocating the costs described in section 8.4 may be used provided they have substantially the same effect as the approach outlined in sections 8.38 and 8.40.

Section 8.42 of the Code provides that Reference Tariffs should be designed so that a particular User's share of the proportion of Total Revenue to be recovered from sales of a Reference Service is consistent with the principles of section 8.38 of the Code.

8.42 Subject to section 8.43, a Reference Tariff should, to the maximum extent that is technically and commercially reasonable, be designed so that a particular User's share of the portion of Total Revenue to be recovered from sales of a Reference Service (which may be on the basis of forecasts) is consistent with the principles described in section 8.38.

Section 8.43 of the Code provides for circumstances in which discounts may be recovered from other users, the Reference Service or other services (prudent discounts).

8.43 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),

then the Relevant Regulator may, with effect from the commencement of an Access Arrangement Period, permit some or all of any discount given to, or to be given to, that User or Prospective User (where the discount is the difference between the Reference Tariff (or the Equivalent Tariff) and the Tariff actually paid or to be paid by the User or Prospective User) to be either:

(c) recovered from other Users of the Reference Service under section 8.42, in a manner that the Relevant Regulator is satisfied is fair and reasonable; or

(d) recovered from the Reference Service or some other Service or Services under section 8.38 in a manner that the Relevant Regulator is satisfied is fair and reasonable.

5.10.2 Access Arrangement Proposal

Section 7.3.2 of the Access Arrangement Information describes GGT's proposed method of cost allocation:

> The Goldfields Gas Pipeline offers gas transport services on a non discriminatory basis. Further, tariffs are determined on the basis of all pipeline users, including the owners, being ascribed the same tariff. Therefore, the basic cost allocation philosophy adopted for the Goldfields Gas Pipeline is that costs are distributed reasonably over all gas transport services and all users.
>
> Costs allocated to the Goldfields Gas Pipeline for the purposes of determination of the Reference Service tariff relate solely to that asset.
>
> The NPV tariff setting approach used yields a 'levelised' tariff. The impacts of significant non routine expenditures, such as compressor overhauls, are spread over the duration of the Access Arrangement, thus eliminating price shocks. Further, the adoption of a longer time horizon for tariff setting ensures that future activities are anticipated and planned prudently.

GGT has proposed offering one Reference Service with all costs/revenues to be allocated to that Service and across all Users, including the joint owners of the pipeline. The costs/revenues to be recovered from each User are related to each User's reserved capacity, delivery point location(s), throughput and contract duration.

5.10.3 Submissions from Interested Parties

There were no submissions directly related to the allocation of costs/revenue.

5.10.4 Additional Considerations of the Regulator

As all relevant costs are allocated to the Reference Service and across all Users including the joint owners of the pipeline, the Regulator considers that the proposed cost/revenue allocation methodology is consistent with the requirements of the Code.

5.11 REFERENCE TARIFF

5.11.1 Access Code Requirements

Having considered the elements necessary for tariff determination including the Initial Capital Base, Capital Expenditure, Non-Capital Costs, the Rate of Return, the Depreciation Schedule and the allocation of costs/revenues across services and Users, the remaining matters to be considered are the determination of the structure and level of the Reference Tariff and any Reference Tariff variation and incentive mechanism.

The main requirement of the Code relating to the Reference Tariff is by way of a general objective included as section 8.1(e) of the Code, which requires that the Reference Tariff should be designed with a view to achieving efficiency in the level and structure of the tariff.

Reference Tariff variation and incentive mechanisms are discussed separately in section 5.12 below.

5.11.2 Access Arrangement Proposal

Section 7.5 of the Access Arrangement Information describes the process of tariff determination. GGT has proposed the following tariff structure for the Reference Service:

- An annual account management charge for each User;
- A toll component (expressed in $/GJ of contracted MDQ);
- A reservation component (expressed in $/GJ of contracted MDQ/km); and
- A throughput component (expressed in $/GJ of throughput/km).

The toll, reservation and throughput components of the Reference Tariff are each offered on the basis of four contract periods with lower tariff rates as the duration of the contract period increases. The four contract terms are as follows:

(1) 1 to 5 years;

(2) 6 to 10 years;

(3) 11 to 15 years; and

(4) 16 to 20 years.

The annual account management charge is for the annual maintenance of each account and is payable on the first business day in January for each year of the Service Agreement. It has a base value of $1,500 and is subject to escalation by the All Groups Weighted Average of Eight Capital Cities CPI in the manner specified in clause 9.8 of the General Terms and Conditions.[88] As the CPI in the formula specified in clause 9.8 of the General Terms and Conditions is lagged by two quarters dating back to the June 1997 quarter, the Regulator has taken the annual account management charge to be in dollars applicable as at 1 October 1997.

The proposed tariff structure is the same as that first introduced under the *Goldfields Gas Pipeline Agreement Act 1994*.

Despite the derivation of a Total Revenue requirement using a Net Present Value approach, GGT proposed a Reference Tariff that is unrelated to this Total Revenue. Instead, GGT proposed a different Reference Tariff as a separate initiative. The Reference Tariff proposed by GGT is presented in section 7.5.3.10 of the Access Arrangement Information and is shown in Table 30, below.

[88] The proposed escalation formula is reproduced on page 180 below.

Table 30
Proposed Reference Tariff

Tariff	**Toll** ($/GJ of Contracted MDQ)	**Capacity Reservation** ($/GJ of Contracted MDQ/km)	**Throughput** ($/GJ km of Throughput/km)
1-5 Year Contract	0.269392	0.001556	0.000494
6-10 Year Contract	0.246943	0.001427	0.000453
11-15 Year Contract	0.235718	0.001362	0.000433
16-20 Year Contract	0.224494	0.001297	0.000412

The Regulator understands that the tariff in Table 30 is the base on which escalation for inflation is applied. It is also understood that the rates of the tariff are intended to represent the value "C_b" of the escalation formula specified in clause 9.8 of the General Terms and Conditions.[89] Recognising that the CPI in the formula specified in clause 9.8 of the General Terms and Conditions is lagged by two quarters, the Regulator has taken these rates to be in dollars applicable as at 1 October 1997. GGT proposed using the All Groups Weighted Average of Eight Capital Cities CPI value of 120.2 for the June 1997 quarter as the base CPI value.[90]

The Net Present Value (NPV) methodology chosen by GGT for determining tariffs for the Goldfields Gas Pipeline takes a project based approach assuming the Access Arrangement Period to be the life of the project. The Initial Capital Base is taken to represent the "purchase price" of this project and is the initial cash outflow. Revenues from transportation services represent cash inflows and capital and operating expenses represent cash outflows. The project comes to an end with a cash inflow item, referred to as the residual value, representing the depreciated value of the Initial Capital Base, capital expenditure plus working capital. The net cash flow before tax and interest is then discounted to yield the NPV of the project. The Reference Tariff is determined such that the NPV is zero at a discount rate equal to the WACC.

However, the proposed Reference Tariff shown in Table 30 is stated by GGT to be less than the Reference Tariff that would be derived from GGT's projected costs and Total Revenue.[91] GGT indicated in the Access Information that it considered it appropriate to continue to offer the voluntary tariff reductions available since the tariff was first introduced under the *Goldfields Gas Pipeline Agreement Act 1994*.

[89] The proposed escalation formula is reproduced on page 180 below.

[90] The escalation formula is discussed in more detail on page 180 below.

[91] The Reference Service tariff required to obtain a "NPV @ WACC of zero" is stated in section 7.5.3.10 of the Access Arrangement Information to be approximately 22 percent higher than the benchmark tariff reproduced in Table 30.

Clause 6.2 of the proposed Access Arrangement makes reference to the following additional charges that may apply to a service:

- Connection charge(s);
- Account establishment charge;
- An amount of Bond/Security; and
- Any other charges under the Service Agreement.

The connection charge and account establishment charge are discussed under "Other Fees and Charges" in section 6 below. The amount of Bond/Security sum required by GGT is discussed in section 4.3.4 of this Draft Decision, above.[92]

5.11.3 Submissions from Interested Parties

Tariff Methodology

✎ Anaconda Nickel Ltd

Anaconda's analysis indicates that the Access Agreement fails to provide adequate data in several areas to allow a meaningful and fair assessment of the reference tariffs to be made. Key areas which must be addressed are:

- There is continuous mention of the reduction in tariffs which has taken place in the short life of the project. It is difficult to give credit to GGT for reducing the tariffs if they were too high, and fell outside the intent of the code, in the first instance.
- Initial tariff calculations probably allowed for additional compressor stations at some stage, these have not been required. There are no current plans to construct these compressor stations during the period of the access agreement.
- There are several additional payments due under the agreement which have not been incorporated into the tariff determination methodology.

Tariff reductions have occurred during the life of the Goldfields Gas Pipeline. These reductions are unrelated to the determination of the Reference Tariff by the Regulator.

The Regulator is unable to make comment on GGT's past assumptions concerning the construction of compressor stations. No allowance has been made for the construction of additional compressor stations in proposed capital expenditure for the Access Arrangement Period.

The Regulator's deliberations in respect of charges that are additional to the Reference Tariff are discussed in section 6 of this Draft Decision.

Tariff Structure

✎ North West Shelf Gas

The AAI does not appear to provide any rationale for the toll, or for the relative split of the fixed and variable portions of the tariff. We request that the Regulator determine the basis for and

[92] Refer p 44 of this Draft Decision.

reasonableness of the proposed tariff structure. In particular, the proportions of fixed and variable charges might be reasonably expected to reflect the actual fixed and variable costs of the pipeline.

The Regulator has examined the fixed and variable costs of the Goldfields Gas Pipeline and assessed these against the fixed and variable components of the tariff. This analysis has shown that while variable costs are a small proportion of total cost, industry practice is toward recovery of all Non-Capital Costs from the variable component of the tariff. In the case of the Goldfields Gas Pipeline, Non-Capital Costs represent about 18.5 percent of total cost on a cost of service basis. The Regulator therefore considers that the tariff structure proposed by GGT is consistent with industry practice.

- Anaconda Nickel Ltd

  The tariff regime offers various incentives to sign long-term contracts, with greater tariff reductions given for longer contract periods. Anaconda feel this structure for tariffs is unfair as long-term contracts are inherently risky for end users. The Regulator has previously demonstrated his view of long-term contracts with his draft decision on the Parmelia pipeline. Anaconda feel the tariff structure should be re-visited with a lesser focus on time period.

The main concern addressed by the Regulator in previous decisions on contract term is that the Reference Service should provide a minimum contract term of no more than one year. The tariff structure proposed by GGT offers a minimum contract term of one year and the Tariff is therefore consistent with the previous approach taken by the Regulator.

The Regulator is of the view that the structure of the Reference Tariff is a matter for the Service Provider provided that the revenue expected to be generated from the tariff does not exceed the Total Revenue discussed in section 5.9 above and that the structure and level of the Reference Tariff is consistent with section 8.1(e) of the Code, which requires that the Reference Tariff should be designed with a view to achieving efficiency in the level and structure of the tariff.

The Regulator does not have any in-principle concerns with a tariff structure that provides different tariff rates for different contract terms. This is consistent with common contracting practice and arguably reflects a more reasonable allocation of costs amongst Users of the risk that would otherwise occur under a uniform tariff structure. However, whether the differences in tariff rates for different contract terms are reasonable is a different matter. GGT has proposed a tariff structure such that the rates for a contract term in excess of 16 years are some 84 percent of the rates for a contract having a term of less than five years. The Regulator would welcome any additional comments from interested parties during the current public consultation period as to the appropriateness of the magnitude of this percentage involved.

Tariff Rates

- Hon Mark Nevill MLC

  Since the construction of the GGP 3.5 years ago, high delivered gas prices have been in place because of poor legislation and poor oversight of the project through the existing GGPAA. If this pipeline had been regulated in the past, as have other monopoly pipelines, the tariffs for gas transmission to Kalgoorlie would be about $2.00/GJ.

North West Shelf Gas

The tariff offered in the Access Arrangement is one of the most expensive onshore pipeline transmission tariffs in Australia. If load growth does occur, it will lead to higher rates of return and significant benefits to the pipeline owner.

If a realistic tariff for the GGT is not forthcoming, this may necessitate the development of the proposed Mid West pipeline from Geraldton to Mount Margaret. The development of such a pipeline may not be the most efficient outcome or the most economic use of existing pipeline infrastructure.

Placer (Granny Smith) Pty Ltd

Granny Smith is currently undertaking a study to develop the Wallaby Deposit. With its commitment to the environment, it would prefer to utilise gas due to the significantly lower greenhouse emissions. However, initial indications show that the tariff structure is unlikely to make this a viable alternative. The pessimistic outlook adopted by GGT is likely to become a reality unless tariffs are reduced.

Anaconda Nickel Ltd

The fact that the owners of the Windimurra Vanadium project found it more economical to access gas from the DBNGP rather than the GGP is indicative of the unusual tariff discrepancy between the two lines. Further, Anaconda is currently considering building the 700km Geraldton to Mount Margaret spur line- a project which is only viable if tariffs are ludicrously high on the GGP.

Anaconda Nickel Ltd

Anaconda has re-calculated the Reference Tariffs using its own assumptions relating to the various input factors. This leads to return of 11 percent on a calculated cost of capital of 8.26 percent. A scaling factor of 0.69 has been applied to the transport revenue to simulate the effect of a 30 percent reduction in tariff. The depreciated value has been altered to reflect a more accurate picture of the depreciation schedule.

	1999	2000	2001	2002	2003	2004
Reservation (TJ/d)	0	98.2	98.2	102.2	100.5	95.9
Average Throughput (TJ/d)	0	70.7	70.7	73.6	72.4	69.0
Average Transport Distance	0	1091	1093	1104	1117	1134
Toll Revenue ($MOD)	0	7.11	7.25	7.73	7.80	7.66
Reservation Revenue ($MOD)	0	44.71	45.82	49.34	50.30	50.09
Throughput Revenue ($MOD)	0	10.21	10.49	11.32	11.52	11.45
Average Fixed Charges ($MOD)	0	0.02	0.02	0.02	0.02	0.01
Annual Revenue ($MOD)	0	62.1	63.6	68.4	69.6	69.2
Cap. Base Initial & Resid. ($MOD)	452.6	0	0	0	0	-430
Capital Expenditure ($MOD)	0	1.5	1.2	1.2	1.2	1.2
Operating Expenditure ($MOD)	0	11.3	11.3	11.3	11.6	12.7
Net Cash Flow ($MOD)	-452.6	49.3	51.1	55.9	56.8	485.3
Discount Factor (WACC)	1	1.083	1.172	1.269	1.374	1.488
Discounted Cash Flow ($MOD)	-452.6	45.5	43.6	44.0	41.4	326.2
Discounted Cash Flow (MOD Real)	-452.6	44.4	41.4	40.8	37.4	287.5
IRR	**11.0percent**					

The above table shows that the tariffs could be reduced by at least 30 percent of those proposed, using conservative estimates of cost of capital, and still provide a return of 11 percent on a cost of capital of 8.26 percent. This return would still be significantly higher than those generally expected in the mature North American markets.

Normandy Mining Ltd

Normandy is of the view that the Reference Tariff calculation should be made on the assumption that future throughput should at least remain at the levels predicted for the first five years ie at an annual average throughput of around 72TJ/day. GGT's calculation of a Reference Tariff gives a figure of $3.48/GJ (based on year 2000 revenue divided by the pipeline input flows). GGT are not proposing to use this level, but instead are offering to remain with the tariff currently on offer for the year 2000, which is equivalent to $2.50/GJ on this basis. However, if Normandy changes the assumptions relating to the ICB, WACC and depreciation… and assumes a constant throughput for the remaining

life, then the estimated Reference Tariff reduces to around $1.95/GJ. These indicative calculations show the extreme sensitivity of the Reference Tariff calculation to future throughput assumptions.

- WMC Resources

  WMC is of the view that the Reference Tariff calculation should be made on the assumption that future throughput should at least remain at the levels predicted for the first five years ie at an annual average throughput of around 72TJ/day... GGT's calculation of a Reference Tariff gives a figure of $3.48/GJ. GGT are not proposing to use this result, but instead are offering to remain with the tariff currently on offer for the year 2000, which is equivalent to $2.50/GJ on this basis. However, if WMC changes the assumptions relating to the ICB, WACC and depreciation, then the estimated Reference Tariff reduces to around $1.93/GJ... These indicative calculations show the extreme sensitivity of the Reference Tariff calculation to future throughput assumptions.

The Regulator has assessed the Reference Tariff that would correspond to the revised parameters outlined in this Draft Decision in relation to the Initial Capital Base, Rate of Return, Non-Capital Costs and Depreciation. This assessment is described below. In summary, the Regulator has estimated that Total Revenue for the Goldfields Gas Pipeline should be $208.1 million (excluding GST) in present value terms for the Access Arrangement Period. This is expected to reduce GGT's proposed Reference Tariff for the Goldfields Gas Pipeline by approximately 30 percent. This reduction is expected to result in a Reference Tariff for transmission of gas to Kalgoorlie of about $1.85 per GJ (excluding GST and expressed in dollars at 1 January 2000) at 100 percent load factor for a contract duration of 16 years or more.

The amount of this decrease and the methodology used in deriving this decrease is discussed in further detail under "Additional Considerations of the Regulator" in section 5.11.4 below.

Tariffs under the State Agreement Act

- Treasury, Office of Energy and Department of Resources

  … tariffs for third party access to the GGP have in the past been determined in compliance with the tariff setting principles approved under the State Agreement. The Regulator would now need to establish the relevance of those tariffs, determined under the State Agreement, to the decision he must now make in accordance with the relevant principles of the Code. The Regulator would thus need to consider the Joint Venturer's legitimate business interests, as owners and operators of the GGP and having regard to Clause 21(3) of the State Agreement…

  The statement… that the tariffs offered …are 22 percent lower than that required to achieve a zero NPV raises the question whether current tariffs would be sustainable and should be queried.

- Anaconda Nickel Ltd

  The continued focus on historical tariffs is irrelevant and, consequently, puzzling. Anaconda argued that Tariffs should be reduced by greater than 50 percent before they could be considered to be fair and reasonable.

  We have a great concern that GGTJV will seek to hide behind the State Agreement if they receive an unfavourable ruling from the Regulator. The Regulator must make it absolutely clear in his ruling that this historical agreement between the State and the then GGP owners has no relevance under the new Regulatory regime. Also any commercial concerns relating to this matter should be commercially resolved between the State and GGTJV.

  The GGTJV consider it appropriate to consider the tariff determination in the Access Arrangement as a cross check of existing tariffs which comply with the spirit and intent of the Code. The calculations

> in the Access Arrangement are stand alone and must be considered as such. Even with tariffs at 75 percent of initial tariffs, they remain greater than any other tariff in Australia. The 25 percent reduction of tariffs… bears testimony to the fact that DRD were incorrect in their acceptance of the initial tariff structure.

The Regulator is mindful of the legitimate business interest requirements of clause 21(3) of the *Goldfields Gas Pipeline Agreement Act 1994*. This matter has been addressed in various parts of this Draft Decision.[93] In general, it is concluded that the tariff setting principles under the State Agreement Act are substantially the same as the corresponding provisions of the Code. In the circumstances, the Regulator considers that the application of the Reference Tariff Principles of the Code have no material adverse effect on the Joint Venturer's legitimate business interests.

The Draft Decision is based on an assessment of the proposed Access Arrangement that takes into consideration the requirement for tariffs to provide a Total Revenue consistent with a rate of return on the costs of delivering the Reference Service which is commensurate with prevailing conditions in the market for funds and the risks involved.

Level of Information Provided by GGT

- Treasury, Office of Energy and Department of Resources Development

> In general, … the Access Arrangement Information is not sufficient to permit interested parties to understand the derivation of the proposed Reference Tariff. The principles and reasoning behind the structure of the tariff and the relative magnitude of the three components of the tariff, including an explanation of the costs these components are designed to recover, are also not presented in the Access Arrangement Information. The Regulator may wish to consider whether sufficient information has been provided to allow Prospective Users to understand the basis upon which the NPV calculation…was derived.

- Anaconda Nickel Ltd

> The following data should be presented to enable an accurate throughput and risk profile for the pipeline to be calculated:
>
> - Volumes delivered to each customer
> - Volumes contracted in each tariff category (ie. Contract life)
> - Revenue generated in each tariff category
>
> The GGTJV have hidden behind the general umbrella of commercial confidentiality. It should be noted that Anaconda were not approached as to whether we would be prepared to allow disclosure, so GGTJV has assumed our commercial requirements. Anaconda would be happy to have its contract volumes/arrangements, and its historical throughput disclosed.

While the Regulator is satisfied, for the purposes of this Draft Decision, that he is able to estimate with a reasonable degree of accuracy the revenues that the proposed Reference Tariff would produce, the Regulator finds that the level of information provided in the Access Arrangement Information is insufficient to adequately verify the Reference Tariff, particularly for the purpose of issuing the Final Decision. Although additional information to

[93] A general discussion on the provisions of the legislation is provided in section 2.5. For a discussion on the rights of users of the Goldfields Gas Pipeline in relation to Queuing Policy see p59. For a discussion on the reasonable expectations of persons under the State Agreement Act in relation to the determination of the Initial Capital Base see p96 and p105.

that in the Access Arrangement Information has been provided to the Regulator, this information is still insufficient to verify the revenue generated by a Reference Tariff for the Goldfields Gas Pipeline. As required by Amendment 38 below, GGT is required to provide sufficient information to the Regulator to enable such verification before the Access Arrangement will be approved.

In considering confidentiality and the required information specified in Attachment A to the Code, the Regulator will give further consideration to GGT's concerns in determining the extent to which additional information must be included in the Access Arrangement Information.

5.11.4 Additional Considerations of the Regulator

Having considered all of the components that make up Total Revenue and before considering the determination of the Reference Tariff, it is convenient to summarise the cash flow position reached. Table 31 below is the Cash Flow Statement based on information made available by GGT and assumptions by the Regulator where such assumptions have been necessary. The Cash Flow Statement summarises the financial aggregates that go into determining the Reference Tariff.

Table 31
Cash Flow Statement - Regulator's Assessment
(Dollars as at 31 December 1999, excluding GST)

	1999	**2000**	**2001**	**2002**	**2003**	**2004**
	$Million	$Million	$Million	$Million	$Million	$Million
Initial Capital Base	-438.0					
Capital Expenditure		-1.4	-1.1	-1.1	-1.1	-1.1
Non-Capital Expenditure		-9.9	-9.5	-9.5	-9.6	-10.3
Total Revenue*		51.7	51.5	53.7	52.7	50.5
Residual Value						401.2
Cash Flow	-438.0	40.4	40.9	43.1	42.0	440.3

*Total Revenue in this table has been smoothed to allow tariffs to increase in line with the CPI as proposed by GGT in the Access Arrangement. However, in present value terms, Total Revenue shown in this table is the same as that shown in Table 29 each giving a present value of $208.1 million when discounted at the WACC of 7.95 percent.

The Net Present Value of the cash flow shown in Table 31 is zero when discounted by the WACC of 7.95 percent.[94]

[94] Subject to rounding.

The development of a tariff schedule that will generate the target revenue shown as Total Revenue in Table 29 requires information on the use of services provided by the Goldfields Gas Pipeline. Since the tariff schedule proposed by GGT is based on the MDQ, distance and contractual term, derivation of the Reference Tariff requires information on MDQ, throughput and contractual term at each delivery point along the pipeline. GGT has not provided such information either in the Access Arrangement Information or subsequently to the Regulator. The Regulator will, however, require sufficient information to be made available to verify Total Revenue prior to approval of the Access Arrangement and Reference Tariff.

For the purposes of this Draft Decision and by making use of information in the public domain, the Regulator has made an estimate of the Reference Tariff that is consistent with the Regulator's revised costs and Total Revenue.

Detailed analysis of the available information indicates that a reduction of approximately 30 percent in the Reference Tariff proposed by GGT in the Access Arrangement Information is required to generate the Total Revenue presented in Table 31 above. The resulting Reference Tariff that is directly comparable to that proposed by GGT (reproduced in Table 30 above) is shown in the following table.

Table 32
Regulator's Assessed Reference Tariff
(Dollars as at 1 October 1997, excluding GST)

Tariff	**Toll** ($/GJ of Contracted MDQ)	**Capacity Reservation** ($/GJ of Contracted MDQ/km)	**Throughput** ($/GJ km of Throughput/km)
1-5 Year Contract	0.188574	0.001089	0.000346
6-10 Year Contract	0.172860	0.000999	0.000317
11-15 Year Contract	0.165003	0.000953	0.000303
16-20 Year Contract	0.157146	0.000908	0.000288

The Regulator's assessed Reference Tariff expressed in dollars as at 1 January 2000 is presented in Table 33.

Table 33
Regulator's Assessed Reference Tariff
(Dollars as at 1 January 2000, excluding GST)

Tariff	**Toll** ($/GJ of Contracted MDQ)	**Capacity Reservation** ($/GJ of Contracted MDQ/km)	**Throughput** ($/GJ km of Throughput/km)
1-5 Year Contract	0.193595	0.001118	0.000355
6-10 Year Contract	0.177462	0.001025	0.000326
11-15 Year Contract	0.169395	0.000979	0.000311
16-20 Year Contract	0.161329	0.000932	0.000296

The tariff rates that would apply for transmission of gas to Kalgoorlie in dollars applicable as at 1 January 2000 and assuming a 100 percent load factor are presented in Table 34 below.

Table 34

Estimated Reference Tariff (excluding GST) for Transmission of Gas to Kalgoorlie
(Dollars as at 1 January 2000, 100% Load Factor)

Contract Term	**Tariff** ($/GJ)
1-5 Year Contract	2.22
6-10 Year Contract	2.04
11-15 Year Contract	1.95
16-20 Year Contract	1.85

Since the Regulator was unable to precisely calculate the revenue generated by any tariff for the Goldfields Gas Pipeline, the Regulator will require GGT to provide the information necessary to verify the revenue generated by the Reference Tariff before the Access Arrangement is approved. This revenue is that having a present value of $208.1 million corresponding to the revenue streams shown in Table 29.

Goods and Services Tax (GST)

GGT has advised that there are no GST pass-through savings currently applicable to the Goldfields Gas Pipeline taking into account the tax savings available. This has been supported by an accounting opinion by Arthur Andersen advising that the methodology

utilised by GGT is appropriate to determine GGT's pass-through proportion for Reference Tariff purposes.

The Reference Tariff has therefore been increased by 10 percent for the impact of the GST being the proportion of pass-through determined to be appropriate for the Goldfields Gas Pipeline. The Regulator's assessed Reference Tariff including GST is presented in Table 35 below.

Table 35
Regulator's Assessed Reference Tariff
(Dollars as at 1 January 2000, including GST)

Tariff	**Toll** ($/GJ of Contracted MDQ)	**Capacity Reservation** ($/GJ of Contracted MDQ/km)	**Throughput** ($/GJ km of Throughput/km)
1-5 Year Contract	0.212954	0.001230	0.000391
6-10 Year Contract	0.195208	0.001128	0.000358
11-15 Year Contract	0.186335	0.001077	0.000342
16-20 Year Contract	0.177462	0.001025	0.000326

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

Amendment 38

The proposed Access Arrangement should be amended to reflect a Reference Tariff (exclusive of GST) that will generate Total Revenue having a present value of $208.1 million as at 31 December 1999 using the WACC of 7.95 percent as the discount rate.

Based on the parameters used in determining Total Revenue, information will need to be provided to the Regulator to verify that the Reference Tariff will generate a Total Revenue having a present value of $208.1 million.

The proposed Access Arrangement should also be amended to specify a GST inclusive Reference Tariff.

5.12 REFERENCE TARIFF VARIATION AND INCENTIVE MECHANISMS

5.12.1 Access Code Requirements

The Code addresses variation in Reference Tariffs within an Access Arrangement Period in terms of two general matters:

(a) variation in Reference Tariffs according to principles such as a predetermined price path or a realised cost and sales outcome for the Service Provider; and

(b) variation in Reference Tariffs (within the scope of (a) above) according to principles of an Incentive Mechanism.

The provisions of the Code relating to these matters are outlined below.

Variation in Reference Tariffs at the Discretion of the Service Provider

Section 8.3 of the Code provides for the Service Provider to have discretion as to the manner in which Reference Tariffs vary within an Access Arrangement Period:

> 8.3 Subject to these requirements and to the Relevant Regulator being satisfied that it is consistent with the objectives contained in section 8.1, the manner in which a Reference Tariff may vary within an Access Arrangement Period through implementation of the Reference Tariff Policy is within the discretion of the Service Provider. For example, a Reference Tariff may be designed on the basis of:
>
> (a) a "price path" approach, whereby a series of Reference Tariffs are determined in advance for the Access Arrangement Period to follow a path that is forecast to deliver a revenue stream calculated consistently with the principles in this section 8, but is not adjusted to account for subsequent events until the commencement of the next Access Arrangement Period;
>
> (b) a "cost of service" approach, whereby the Tariff is set on the basis of the anticipated costs of providing the Reference Service and is adjusted continuously in light of actual outcomes (such as sales volumes and actual costs) to ensure that the Tariff recovers the actual costs of providing the Service; or
>
> (c) variations or combinations of these approaches.

Incentive Mechanisms

Sections 8.44 to 8.46 of the Code detail the principles for establishing an Incentive Mechanism within the Reference Tariff Policy and the objectives that the Incentive Mechanism should seek to meet.

Section 8.44 of the Code states that a Reference Tariff Policy should, wherever the 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 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; and

(e) to ensure that Users and Prospective Users gain from increased efficiency, innovation and volume of sales (but not necessarily in the Access Arrangement Period during which such increased efficiency, innovation or volume of sales occur).

5.12.2 Access Arrangement Proposal

Inflation Adjustment of Tariffs

Tariff rates for the Goldfields Gas Pipeline have historically been adjusted by 100 percent of CPI. However, several downward adjustments have been made since the tariff was first introduced. GGT has indicated that the impact of tariff reductions to 1 January 2000 has been to reduce the tariff to 75% of the original level of tariffs established under the *Goldfields Gas Pipeline Agreement Act 1994*.[95]

GGT has proposed that tariff rates continue to be adjusted for inflation as in the past and has proposed a formula in clause 9.8 of the General Terms and Conditions for this purpose. This formula, with correction as subsequently submitted to the Regulator, is as follows:

$$C_t = C_b \times \frac{CPI_{t-2}}{CPI_b}$$

C_t is the relevant charge in the Quarter ***t*** in which the Billing Period occurs;

C_b is the relevant charge applicable at the date of service agreement;

[95] AAI section 3.1.1.

CPI_{t-2} is the CPI for the Quarter ended three months prior to the commencement of Quarter ***t***; and

CPI_b is the base CPI, and is 120.2.

It is understood that GGT's proposed Reference Tariff, presented in section 7.5.3.10 of the Access Arrangement Information, is expressed in terms of dollars applicable as at 1 October 1997, based on the June 1997 quarter CPI for the All Groups Weighted Average of Eight Capital Cities of 120.2 and which, for the purposes of GGT's escalation formula, is lagged by two quarters.[96]

Historical changes in the Goldfields Gas Pipeline tariff resulting from inflation adjustments and revisions are illustrated in Figure 3 to Figure 5 below for the tariff components (Toll Fee, Reservation Charge and Throughput Charge) corresponding to the 16 to 20 year contractual term. The tariff rates illustrated in Figure 3 to Figure 5 are expressed in nominal terms after escalation of tariff rates in accordance with GGT's escalation formula.

The charges shown for the December 1999 quarter in Figure 3 to Figure 5 are expressed in dollars of the day and correspond to the Reference Tariff presented in section 7.5.3.10 of the Access Arrangement Information. It should be noted that the tariff reductions voluntarily introduced by GGT have not been uniform across all tariff components.

[96] CPI is defined by GGT in the proposed Access Arrangement Appendix 1, p2 as:

"…the Consumer Price Index (All Groups Weighted Average of Eight Capital Cities) as published by the Australian Bureau of Statistics for any Quarter and if such Index ceases to be published, any official replacement index published by the Australian Bureau of Statistics and, in the absence of any official replacement index, an index nominated by GGT which is prepared and published by a government authority or independent third party and which most closely approximates the Consumer Price Index"

Figure 3

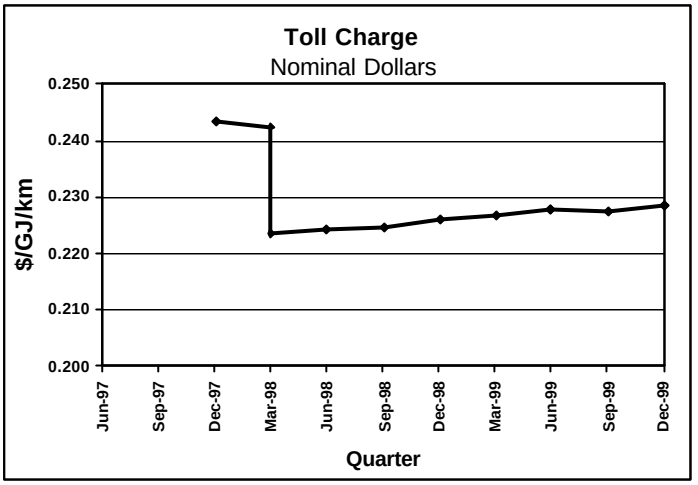


Figure 4

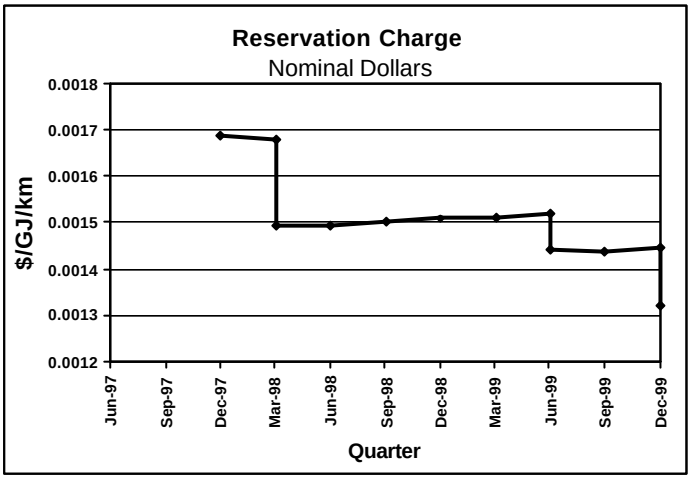
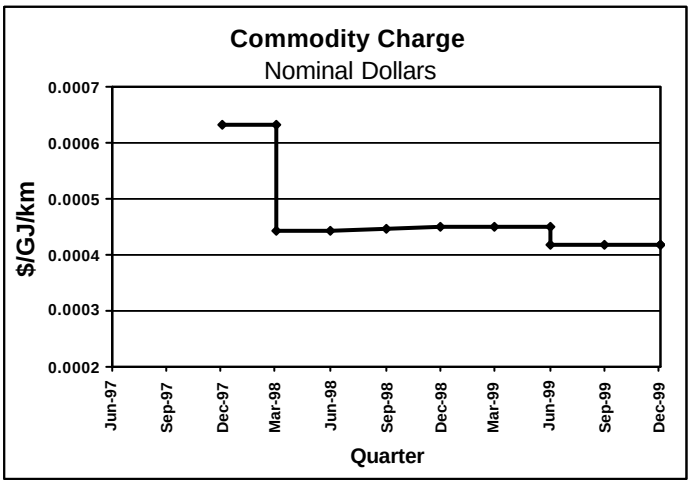


Figure 5



Incentive Mechanisms

Incentive structures are addressed in section 7.6 of the Access Arrangement Information. GGT has proposed a "price path" approach to the specification of the Reference Tariff, whereby the tariff is set in advance for the entire Access Arrangement Period on the basis of anticipated revenues and costs. GGT considers that these revenues and costs constitute a benchmark for performance. If GGT's performance is better than anticipated, its returns will be improved, if not, they will decline.

5.12.3 Submissions from Interested Parties

CPI-X Incentive Mechanisms

- AlintaGas

  AlintaGas considers the escalation of all GGT charges by 100% excessive. The use of a CPI mechanism is acceptable if it is a properly designed incentive mechanism.

- WMC Resources

  WMC is opposed to the inclusion of a generalised escalation based on a CPI type indicator or a fraction of it as we see no natural link between the Australian CPI and the cost of providing pipeline services. Therefore, we support one of the following schemes:

  - No automatic tariff increases. All increases to be approved through O*ff*GAR.
  - Tariffs are fixed for 5 years based on projected best practice cost improvements and cost input changes; or
  - Revenue path determined by O*ff*GAR as part of the acceptance process.

  The Code obliges O*ff*GAR to take into consideration the "impact on the international competitiveness of energy consuming industries" none of whom have the luxury of the sales prices of their products increasing at a stable and predictable rate based on some generalised index.

- Treasury, Office of Energy and Department of Resources Development

  The Regulator is encouraged to consider the merits of other incentive structures, such as CPI-X to share benefits with Users.

- North West Shelf Gas

  The proposed tariff structure does not include any efficiency incentive mechanism. We request that the Regulator consider whether a CPI-X mechanism is more suitable, as it is used in many other regulated pipelines. It is also our view that such an incentive mechanism should be applied to all charges currently proposed by the GGT.

- Anaconda Nickel Ltd

  Several regulatory decisions have encouraged the pipeline owners to use a CPI-X format as an incentive package. Anaconda believes this may be a more appropriate incentive structure for the GGTJV to use on this pipeline.

- Anaconda Nickel Ltd

  The operating costs for the Goldfields gas pipeline are excessive - especially when compared to those of Epic for the Dampier to Bunbury pipeline. Operating costs generally don't have a major impact on

tariffs – however the size of the Operating costs in this instance imparts some significance to them. Several points must be considered:

…

- There is no improvement/reduction program for the operating costs.

…

As discussed in section 5.2.2 above, GGT has chosen a price path methodology in specifying the Reference Tariff. GGT has proposed a Reference Tariff that remains constant in real terms over the Access Arrangement Period, but which is adjusted annually for inflation. GGT proposes to base inflation adjustments on changes to the All Groups Weighted Average of Eight Capital Cities CPI for this purpose.[97]

The price path approach proposed by GGT provides an incentive for the Service Provider to seek efficiency gains and cost reductions. The tariffs for Reference Services are set at pre-determined levels for the entire Access Arrangement Period. The benefits of any cost savings achieved in the provision of the services within the Access Arrangement Period would be captured by GGT for the remainder of the Access Arrangement Period. This is consistent with the principles for an Incentive Mechanism as set out in sections 8.44 and 8.45(a) of the Code. Consistent with section 8.46(e) of the Code, the benefit of cost savings achieved by the Service Provider during an Access Arrangement Period would accrue to Users through lower tariffs in the subsequent Access Arrangement Period.

Australian regulators have typically not used a CPI–X mechanism as a means of creating incentives for service providers to seek efficiency gains in excess of any efficiency gains already forecast and factored into operating costs and Reference Tariffs. Rather, regulators have typically used a CPI-X mechanism for the purposes of tariff smoothing over an Access Arrangement Period.

As GGT has proposed a Levelised Tariff as the Reference Tariff for the Access Arrangement Period the use of a CPI–X mechanism for tariff smoothing is unnecessary. The NPV approach used in levelising tariffs has the effect of "tariff smoothing" and hence application of a CPI-X tariff adjustment for this purpose is unnecessary.

Other Incentive Mechanisms

✎ Treasury, Office of Energy and Department of Resources Development

The Regulator could also consider the efficacy of including an adjustment factor in any incentive mechanism that would reasonably share the benefits of unexpected growth in pipeline volume and demand between the owners and the users. This has been incorporated as a "K" factor in other Australian access arrangements.

✎ Anaconda Nickel Ltd

The GGTJV should offer appropriate incentives, on a continuing basis, to encourage (new) projects to be developed.

[97] Proposed Access Arrangement Appendix 1, p2.

The Regulator has reviewed the issue of increased throughput and the sharing of the benefits of reductions in unit costs between the Service Provider and Users. However, as no material increases in throughput are envisaged for the Access Arrangement Period no adjustment is seen as necessary.

In the years beyond the Access Arrangement Period, changes in unit costs as a result of increases or decreases in throughput would impact the Reference Tariff and would be subject to the review of the Access Arrangement.

The Regulator considers, however, that increases in throughput beyond a certain threshold should trigger a review of the Access Arrangement. For the Goldfields Gas Pipeline, the Regulator considers that GGT should submit revisions of the Access Arrangement if the quantity of gas delivered into the pipeline in the preceding calendar year exceeds the forecast delivered volume for that year by 25 percent or more (Amendment 28).

The Regulator considers that the requirement to review the Reference Tariff if actual throughput in the preceding year exceeds the forecast delivered volume for that year by 25 percent or more, offers GGT appropriate incentives on a continuing basis while still safeguarding the interests of Users.

The CPI Base Year

- North West Shelf Gas

  One detail that needs to be corrected is the value of the base CPI. The base CPI value proposed is 120.2 however, the all-capitals weighted CPI for the September quarter of 1999 was 123.4. This is the value… that should be adopted for the base CPI value for tariff adjustment purposes…

- Anaconda Nickel Ltd

  The appropriate CPI is the capital cities CPI for Australia, and not just the Perth value. The base CPI should be from the date of the final decision. Consideration should be given whether to take the CPI figure ex-GST or not. …pipeline operators seek to escalate at 100% of CPI when approximately 10 percent of the tariff structure (operating costs) is actually affected by CPI changes. The Regulator should seek a reducing tariff in real terms by requesting a CPI change that more accurately reflects the actual costs that are changing with CPI.

In describing the inflation adjustment mechanism proposed by GGT,[98] it was noted that the Reference Tariff presented in section 7.5.3.10 of the Access Arrangement Information was in terms of dollars as at 1 October 1997 based on the All Groups Weighted Average of Eight Capital Cities CPI of 120.2 for the June 1997 quarter. The Reference Tariff as presented in the Access Arrangement Information therefore needs to be escalated to express these rates in terms of current dollars. Figure 3 to Figure 5 above illustrate GGT's proposed escalation mechanism by showing tariff rates in terms of dollars of the day.

The process proposed by GGT for escalating tariffs is set out in clause 9.8 of the General Terms and Conditions and is reproduced above.[99] However, GGT has advised that the definition of the component C_b needs to be amended to clearly indicate that this term refers

[98] Refer page 180 of this Draft Decision.

[99] Refer page 180 of this Draft Decision.

to the tariff rates specified in the Reference Tariff shown in section 7.5.3.10 of the Access Arrangement Information.

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

Amendment 39

The definition of the component "C_b" of the inflation adjustment mechanism described in clause 9.8 of the General Terms and Conditions should be amended to clearly indicate that this term refers to the tariff rates specified in the Reference Tariff expressed in dollars as at 1 October 1997.

5.12.4 Additional Considerations of the Regulator

Goods and Services Tax (GST)

In relation to GST, Treasury predictions used in other recent decisions by the Regulator were that the CPI post GST are for an immediate spike, followed by a gradual return to the underlying inflation rate, as the effects of GST influence the inflation rate on a temporary basis. GGT is able to account for the effects of GST by the application of GST directly to the Reference Tariff. Unless an adjustment is made to the CPI escalator, where the Reference Tariff is expressed in dollar values at a date prior to 1 January 2001, the temporary effects on the inflation rate would over compensate GGT for the effects of inflation. The Regulator therefore considers it necessary for the CPI escalator to be adjusted to remove the GST-related inflation spike.

The Regulator's preferred method for adjusting for the inflationary effects of the GST is to correct the CPI figure, as published by the Australian Bureau of Statistics, by the forecast inflationary effect as determined by the Commonwealth Treasury.[100] This requires a reduction of 2.75 percentage points for the CPI measure for the September 2000 quarter.

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

Amendment 40

As the revised Reference Tariff is expressed in dollar values at a date prior to 1 January 2001, the CPI adjustment mechanism specified in clause 9.8 of the General Terms and Conditions should be amended such that the increase in the CPI for the quarter ending 30 September 2000 is reduced by 2.75 percentage points to account for the inflationary impact of the GST.

[100] Source: Peter Costello MP, Treasurer of the Commonwealth of Australia and John Fahey MP, Minister for Finance and Administration (May 2000) *2000-01 Budget Strategy and Outlook 2000-01* Statement 3 Part V: The timing of Price Changes.

5.13 THE ECONOMIC DEVELOPMENT TARIFF

In September 1999, GGT offered an Economic Development Tariff that was intended to promote third party use of the Goldfields Gas Pipeline by offering tariffs lower than those scheduled for introduction on 1 January 2000. This offer closed on 31 October 1999, prior to the submission of the proposed Access Arrangement.

The Economic Development Tariff was available on a non-discriminatory basis to new resource development projects and was to be fully negotiable. Such projects could be 'greenfields' in nature, expansions of existing operations, or fuel conversions. Subject to receiving sufficient commitment of new loads, GGT was to expand pipeline capacity and provide relevant and applicable transport services to the new projects. In order for a project to pre-qualify for the Economic Development Tariff, that project was to be scheduled for commissioning no later than December 2003.

It is understood that GGT received a number of enquiries regarding the Economic Development Tariff, however, only two firm requests for future gas transport resulted from these requests. Both are understood to have been for small loads and for comparatively short durations. GGT concluded from this that the lack of response by Prospective Users in response to this initiative indicated that there was little prospect of additional demand during the Access Arrangement Period:

> During September and October 1999, GGT received a number of enquiries regarding the EDT. However, no firm commitments to future gas transport arose from the Economic Development Tariff offer. This lack of commitment indicates that gas transport markets in the East Pilbara and Goldfields are comparatively price inelastic, and that there is little prospect for load growth during the Access Arrangement period.[101]

5.13.1 Submissions from Interested Parties

- Treasury, Office of Energy and Department of Resources Development

> The suggestion that the failure of potential pipeline users to take up the Economic Development Tariff demonstrates a lack of market demand … appears on the face of it a reasonable argument. However, an alternative interpretation is that potential users of the pipeline may have been reluctant to enter into contractual arrangements just before GGT was to submit its proposed Access Arrangement.

- WMC Resources

> WMC are not supportive of the Economic Development Tariff as we see the proposed tariff as discriminatory against existing customers. We believe it is unjust to expect the existing customer, such as WMC, to subsidise new entrants into the area.

- Anaconda Nickel Ltd

> Anaconda, in conjunction with Statewest Power, submitted a request for services under the Economic Development Tariff covering some 20TJ/day of new load. To date we have not received an official response from the GGTJV.

[101] AAI section 3.1.3.

Recognising the very limited conditions on which the Economic Development Tariff was offered including:

- the short period over which it was offered (September 1999 to October 1999);
- that it was only available to greenfield projects, expansion of existing operations or fuel conversions scheduled for commissioning no later than December 2003; and
- that the tariff may be withdrawn if GGT receives an unfavourable regulatory outcome regarding the GGP Access Arrangement,

the Regulator considers that the conclusion reached by GGT that gas transport markets in the East Pilbara and Goldfields are comparatively price inelastic has not been adequately demonstrated.

6 OTHER FEES AND CHARGES

6.1 INTRODUCTION

The proposed Access Arrangement for the Goldfields Gas Pipeline provides for GGT to levy a range of fees and charges on Users and Prospective Users in addition to the Reference Tariff.

The additional fees and charges that GGT proposes to levy 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. Matters relating to fees and charges were also raised in several public submissions on the Access Arrangement and the Regulator is obliged to consider these submissions.

6.2 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 outline the required scope of an Access Arrangement and do not explicitly require fees and charges to be specified, nor provide any explicit guidance to the Regulator in approving or not approving an Access Arrangement in respect of matters relating to fees and charges other than Reference Tariffs. However, to the extent that fees and charges comprise part of the Terms and Conditions for provision of Reference Services, such matters 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.

6.3 ACCESS ARRANGEMENT PROPOSAL

Fees and charges are addressed by clause 9 under "Transport Tariff and Charges" of the GT&C and are detailed in the Sixth Schedule of the GT&C. The fees and charges proposed by GGT, additional to the Reference Tariff,[102] are listed as follows:

- Used Gas Charge;
- Supplementary Quantity Option Charge;
- Connection Charge;
- Account Establishment Charge; and
- Quantity Variation Charges comprising:
  - Accumulated Imbalance Charge;
  - Daily Overrun Charge;
  - Hourly Overrun Charge; and
  - Variance Charge.

Each of these charges is separately described below including comments from interested parties in submissions and any additional considerations by the Regulator where appropriate.

6.3.1 Submissions from Interested Parties

✎ North West Shelf Gas

The penalty charges proposed are very considerable and do not appear to reflect the actual costs to GGT of accommodating these variations. We are concerned that the charges represent an attempt by GGT to make substantial extra revenue from the unavoidable variations in daily or hourly operations of producers or customers. The very high overrun charges would appear to drive a User to book more capacity than really needed. This might be quite inefficient if it results in less capacity being available to others or leads to premature or unnecessary expansion of the GGTP's capacity. Moreover, there should be some check in place to ensure that GGT do not contract more MDQ in aggregate than the pipeline could deliver.

In addition, GGT has proposed that it be able to modify these penalty charges at any time upon giving written notice to Users. This would allow GGT to unilaterally increase the penalty charge factors, resulting in extra revenue for GGTP. We request that any such change to the penalty charges should be subject to the prior agreement of the Regulator.

✎ North West Shelf Gas

With respect to accumulated imbalances, GGT are proposing to charge a User twice the Used Gas price for settling a User's accumulated imbalance if GGT buys gas to remedy the imbalance or to credit the User with half the Used Gas price if GGT has to sell gas to remedy the imbalance. These mark-ups (or markdowns as the case may be) are excessively punitive and do not appear to reflect GGT's costs in remedying the imbalance.

[102] The structure of the Reference Tariff for the Reference Service is described in section 5.11.2 of this Draft Decision.

- North West Shelf Gas

  If the proposed structure and amount of penalty charges proposed are accepted, GGT should be required to forecast and provide information to the Regulator to demonstrate the revenue affect of the penalty charges based on historical pipeline performance. This revenue should then be taken into account when determining the tariff for the reference service.

- Anaconda Nickel Ltd

  All the charges fall within the limits laid out in previous decisions but are regrettably at the upper end of this range. Penalties are an accepted part of the Gas Transporter's portfolio to ensure proper management practices by the end user. However given that the additional charges are based on a percentage of tariff charges, the already high nature of the GGP Tariffs ensure an unfair impost to the user.

- Anaconda Nickel Ltd

  The additional income GGT receives from these Payments (quantity variation charges) is not indicated clearly in the Access Agreement. An assessment of this income should be made to determine whether these charges are fair and reasonable. It is necessary that actual data be used for this assessment.

The Regulator recognises that penalty charges[103] are to encourage Users to operate on the pipeline system so as not to cause operational disturbances that may potentially disadvantage all other Users of the Pipeline or otherwise compromise the integrity of the pipeline. Penalty charges are therefore set at levels to encourage Users to operate in the desired way and not by reference to any specific costs. However, the level of penalty charges should not be set so high so as to be unnecessarily punitive nor to encourage inefficient operation of the pipeline. In general, it is considered that penalty charges should be reasonable recognising the purpose for which the charges are applied and need not specifically relate to costs.

GGT has proposed penalty arrangements to be flexible in that the application of the charges on any one occasion is to be at GGT's discretion and that certain parameters used in calculating the charges may be modified by GGT giving written notice to all Users of the pipeline.

Currently, the Code does not make provision for the Service Provider to make amendments to an Access Arrangement otherwise than by a review of an Access Arrangement in accordance with the requirements of section 2 of the Code. Schedule 6 of the GT&C of the proposed Access Arrangement should therefore be amended to remove the provisions for GGT to vary the parameters used in the calculation of Quantity Variation Charges.

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

Amendment 41

Schedule 6 of the GT&C of the proposed Access Arrangement should be amended to remove the provisions for GGT to vary the parameters used in the calculation of Quantity Variation Charges.

[103] Penalty charges are those referred to as Quantity Variation Charges on page 196 above.

GGT is also offering a Supplementary Quantity Option (SQO)[104] service to existing Users in order that they may correct imbalances or transport gas in excess of their MDQ on an occasional basis as, in effect, an authorised overrun service. While this service is only available at GGT's discretion, which is necessary for operational reasons, the availability of this service provides Users with an alternative to paying quantity variation charges.

In relation to the issue raised by North West Shelf Gas, the Regulator considers the contracting of MDQ in excess of that which the pipeline is capable of delivering to involve two risks. One concerns the contractual risk borne by GGT that arises if contracted demand exceeds pipeline capability. This is considered to be a commercial risk for GGT and does not require attention by the Regulator.

The second risk is that the reliability of service may be reduced if MDQ is contracted beyond the ability of the system to support that level of contracted MDQ. This second risk is addressed by Amendment 9 of this Draft Decision which requires GGT to adopt an index of reliability and that fixed charges be reduced if the level of reliability is not met.

A comparison of penalty charges for transmission pipelines in Australia (Table 36) indicates that those proposed by GGT compare favourably with charges being applied by other Service Providers or are proposed to be applied by other Service Providers.

[104] For further information on SQOs refer page 31 of this Draft Decision.

Table 36
Additional Charges, Penalty Factor

Pipeline Name	Additional Charges, Penalty Multiplication Factor	
	Access Arrangement Proposal	**Draft/Final Decision**
Amadeus Basin to Darwin Pipeline	120 to 200 percent	Regulator's decision pending.
Central West Pipeline	120 to 300 percent	Final Approval: Accepted.
Moomba to Sydney Pipeline System	300 to 450 percent	Draft Decision: Accepted.
Moomba to Adelaide Pipeline System	175 percent	Draft Decision: Accepted.
Riverland Pipeline	500 percent	Regulator's decision pending.
South West Queensland Pipeline	200 percent	Regulator's decision pending.
Carpenteria Gas Pipeline	200 percent	Regulator's decision pending.
Roma to Brisbane Pipeline	120 to 300 percent	Regulator's decision pending.
Queensland Gas Pipeline	Around 300 percent	Regulator's decision pending.
Tubridgi Pipeline System	125 percent	Draft Decision: Accepted.
Parmelia Pipeline	4,000 percent	Final Approval: Amended to provide a maximum rate of 350 percent of the service tariff.
Dampier to Bunbury Natural Gas Pipeline	1,500 percent	Regulator's decision pending.

The Regulator is satisfied that the level of penalty charges proposed by GGT, ranging from 105 to 300 percent, is consistent with penalty charges applicable in respect of other pipelines in Australia and is therefore considered reasonable.

However, the Regulator considers that penalty charges are not intended as a source of revenue and that therefore the majority of any revenue generated from the application of such penalty charges should be rebated to Users. The Regulator envisages that the costs of levying and collecting penalties would be small and that a reasonable proportion of penalty revenue to be rebated would be in the order of 95 percent.

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

Amendment 42

The proposed Access Arrangement should be amended so that the 95 percent of revenue generated from the application of Quantity Variation Charges is rebatable as if these charges are in relation to rebatable services within the meaning of the Code.

6.4 USED GAS CHARGE

GGT proposes a Used Gas Charge in clause 9.4(d) of the GT&C. The Used Gas Charge is defined as being the product of:

(1) the quotient of the User's actual quantity of Gas delivered at all Outlet Points in a Billing Period and the total quantity of Gas delivered from the Pipeline in the same Billing Period; and

(2) GGT's reasonable assessment of its cost incurred for Used Gas in a Billing Period.

In clause 2 of the Sixth Schedule of the GT&C, GGT undertakes to provide Used Gas at cost and to make all reasonable endeavours to ensure that the price paid for this gas (Used Gas price) is reasonable.[105]

6.4.1 Submissions from Interested Parties

- North West Shelf Gas

  The Used Gas charges are proposed to be passed on to Users at cost. There is no incentive for GGT to ensure that the cost of Used Gas is as low as reasonably practical. The cost of Used Gas should be subject to a reasonable cap with respect to price.

  There should also be an incentive for GGT to minimise the quantity of Used Gas to ensure that gas is not wasted or inefficiently used. A reasonable cap set at a small percentage of pipeline throughput should be established to ensure efficient performance.

- Anaconda Nickel Ltd

  The GGTJV proposal allocates the charges for unaccounted gas to the users, proportional to their gas consumption. It is proposed to charge this gas "at cost". Again this is an unfair impost on the users, as unaccounted for gas can equally be the pipeline owner's fault as it can be an end user. No liability to the owners and the already high nature of the tariffs result in a negative incentive for the pipeline owner to correct any unaccounted for gas concerns.

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[105] The Used Gas price is also referred to in clause 7.2(j) of the GT&C, where it is the basis of the charge for setting a User's Accumulated Imbalance to zero. In that case the Used Gas price is applied as follows:

(j) In the event that:

(1) GGT purchases Gas to set a User's Accumulated Imbalance to zero the User will be invoiced for that Gas at a rate of twice the prevailing Used Gas price.

(2) GGT sells Gas to set a User's Accumulated Imbalance to zero the User will be credited for that Gas at a rate of half the prevailing Used Gas price.

The Access Agreement should seek to:

- Place some liability on the owners through a reduction of the gas price that the owners are allowed to charge;
- Indicate the magnitude of this cost;
- Endeavour to charge the party who may have caused the additional cost otherwise efficient operators are unfairly penalised, and inefficient operators subsidised; and
- Benchmark performance of this variation to allow users to see the percentage of unaccounted for gas, and whether performance is improving.

It is worth noting that the DBNGP proposed Access Arrangement targets a zero value for unaccounted for gas. This would appear to be a reasonable target for GGT to set.

The Used Gas Charge is applied by GGT to recover the cost of System Use Gas comprising:

- physical losses of gas from the pipeline system;
- accumulated metering errors at inlet and outlet points;
- compressor fuel; and
- gas used by other equipment.

Gas use for these purposes is not specific to any particular User, although the amount of such gas use is controllable by GGT. GGT proposes to apportion the cost of System Use Gas across all Users on the basis of the gas delivered to each User. The costs associated with System Use Gas are not therefore included in the costs that are the basis of the Reference Tariff.

In considering the issues raised in submissions, the Regulator is of the view that the amount of System Use Gas for the Goldfields Gas Pipeline is unlikely to be so significant as to warrant the imposition of a maximum charge. There are, however, other ways in which the issues raised may be addressed. An example is provision by GGT of information to Users to demonstrate the competitive tendering of gas used to replace System Use Gas.

Information should in any case be available to Users on the total quantity of System Use Gas charged for by GGT, since this information is necessary for billing purposes. Users should therefore be able to monitor and benchmark GGT's performance in managing System Use Gas.

The Access Arrangement could also offer Users the option to source and supply additional gas of their own to replace System Use Gas. Such a provision would offer Users greater flexibility in sourcing gas supplies. The gas pipeline industry in the United States and Europe uses this approach extensively. In addition, a number of pipelines in Australia use this approach with some variation in the way that it is applied.[106]

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

[106] For example, refer approaches adopted in the Access Arrangements or proposed Access Arrangements for: Moomba to Adelaide Pipeline, Central west Pipeline, Amadeus Basin to Darwin Pipeline, Roma to Brisbane Pipeline, Mount Isa Pipeline, Moomba to Sydney Pipeline, South West Queensland Pipeline and Queensland Gas Pipeline.

Amendment 43

The proposed Access Arrangement should be amended to provide Users with greater flexibility including the option of supplying their own portion of System Use Gas, and to oblige GGT to provide Users with information on the cost and quantity of System Use Gas.

6.5 SUPPLEMENTARY QUANTITY OPTION CHARGE

The Supplementary Quantity Option (SQO) is defined in clause 4.4 of the GT&C as an interruptible service, provided on an occasional basis at GGT's discretion. The SQO is provided so that Users may correct imbalances or transport gas in excess of their MDQ. SQOs are to be offered on a first come first served basis determined by the time and date stated on the SQO nomination form.

The Supplementary Quantity Option Charge is defined under item 4 in the Sixth Schedule of the GT&C as follows:

$$SQO\_C = SQOQ \times 1000 \times (Trans\_Tariff \times SQO\_F)$$

Where:

SQO_C	is the Supplementary Quantity Option Charge in $
SQOQ	is the Supplementary Quantity Option Quantity in TJs
Trans_Tariff	is the applicable tariff in $/GJ as defined in item 5(a) [of the Sixth Schedule].
SQO_F	is the Supplementary Quantity Option Factor and has the value ***1.05***, and may be varied by GGT through notice in writing to all Users.

Trans_Tariff is the Total Transportation Tariff also used in the calculation of the Daily Overrun Charge, the Hourly Overrun Charge and the Variance Charge and is defined as follows:

$$Trans\_Tariff = Toll + CapRes + Thruput$$

Where:

Trans_Tariff	is the total transportation tariff
Toll	is the Toll Tariff.
CapRes	is the Capacity Reservation Tariff multiplied by ***distance***.
Thruput	is the Throughput Tariff multiplied by ***distance***.
distance	is the pipeline distance in kilometres between the Inlet Point and Outlet Point(s) which are the furthest apart.

6.5.1 Submissions from Interested Parties

There were no submissions from interested parties on the supplementary quantity option charge.

6.5.2 Additional Considerations of the Regulator

The Regulator has no additional issues to raise in connection with the supplementary quantity option charge.

6.6 CONNECTION CHARGE

The Connection Charge is defined in clause 9.5 of the GT&C as follows:

> for the commencement of a Firm Service, a once-only Connection Charge, payable on the Date of Service Agreement, for each new Outlet Point and, a once-only Connection Charge for each additional Outlet Point nominated or provided during the Service Period;

There is no specified value for the Connection Charge. Rather, item 3(a) of the Sixth Schedule of the GT&C states that Users will be charged GGT's direct costs for the installation of facilities associated with the connection of User's facilities to the GGT Pipeline.

6.6.1 Submissions from Interested Parties

There were no submissions from interested parties on the connection charge.

6.6.2 Additional Considerations of the Regulator

The Regulator has no additional issues to raise in respect of the connection charge.

6.7 ACCOUNT ESTABLISHMENT CHARGE

The Account Establishment Charge is for the establishment of an account for each Service as defined in clause 9.5 of the GT&C as:

> a once-only, non-refundable Account Establishment Charge, payable on the Date of Service Agreement for each Service;

Item 3(b) of the Sixth Schedule of the GT&C states that the Account Establishment Charge is $1,500 and will be adjusted by the CPI in accordance with clause 9.8 of the GT&C.

6.7.1 Submissions from Interested Parties

There were no submissions from interested parties on the account establishment charge.

6.7.2 Additional Considerations of the Regulator

The Regulator has no additional issues to raise in connection with the account establishment charge.

6.8 QUANTITY VARIATION CHARGES

Clause 7 of the GT&C addresses quantity variations. The points raised in clause 7.1 of the GT&C are as follows:

- Quantity Variation Charges are levied to encourage the efficient utilisation of the pipeline by Users.[107]

[107] Quantity Variation Charges are sometimes also referred to as penalty charges.

- Quantity variations are seen by GGT as a potential cause of operational disturbances that can disadvantage all other Users of the Pipeline or put the integrity of a pipeline at risk. Such operational disturbances may derive from shortages or surpluses of gas in the Pipeline that can:
  - inhibit or otherwise compromise the receipt of gas at the Inlet Point;
  - compromise the safe and efficient transport of gas through the Pipeline;
  - inhibit or otherwise compromise the delivery of gas at an Outlet Point(s); and
  - compromise the management of the Pipeline.

To address these concerns GGT proposes four Quantity Variation Charges as follows:

- Accumulated Imbalance Charge;
- Daily Overrun Charge;
- Hourly Overrun Charge; and
- Variance Charge.

The Quantity Variation Charges, defined in the Sixth Schedule, may be applied or waived solely at GGT's discretion. The waiver of a Quantity Variation Charge in any particular circumstance is not regarded by GGT as a precedent for waiver of such charges in future circumstances.

6.8.1 Accumulated Imbalance Charge

If at the end of any Gas Day the absolute value of the Accumulated Imbalance is greater than the Accumulated Imbalance Tolerance, GGT may at its discretion, require the User to pay an Accumulated Imbalance Charge.

If applied the Accumulative Imbalance Charge[108] is calculated as follows:

$$AI\_C = abs(AI) \times 1000 \times AI\_T$$

Where:

AI_C	is the Accumulated Imbalance Charge in ***$***
AI	is the Accumulated Imbalance in TJs
AI_T	is the Accumulated Imbalance Tariff and has the value ***$2.50*** per Gigajoule, adjusted by the CPI in accordance clause 9.8 of the General Terms and Conditions, and may be varied by GGT through notice in writing to all Users.

The Accumulated Imbalance is the arithmetic sum of all Daily Imbalances corrected for any adjustments made by trading of gas imbalances or purchase or sale of gas to correct gas imbalances.

The Daily Imbalance is defined by clause 7.2(k) of the GT&C as the quantity of gas for a User for a particular Gas Day as follows:

$$DI_n = DGR_n - DGD_n$$

[108] As defined by 5(b) of the Sixth Schedule of the GT&C.

Where:

DI_n is the Daily Imbalance for the User in TJs for the Gas Day n

DGR_n is the Daily quantity of Gas received for the User at the Inlet Point in TJs for the Gas Day n

DGD_n is the Daily quantity of Gas delivered to the User at the Outlet Point(s) in TJs for the Gas Day n

The Accumulated Imbalance Tolerance, which if exceeded by the Accumulated Imbalance may give rise to the Accumulated Imbalance Charge, is defined by clause 7.2(c) of the GT&C as that quantity of gas which is calculated as the greater of:

$$AIT = MDQ \times AITF \text{ or}$$

$$AIT = AITV$$

Where:

AIT is the Accumulated Imbalance Tolerance in TJs

MDQ is the Maximum Daily Quantity in TJs

AITF has the value **0.08**

AITV has the value **1 TJ**

The values for ***AITF*** and ***AITV*** may be modified by GGT through notice in writing to all Users.

Users may, at any time and on any terms, exchange all or part of their Accumulated Imbalances with other Users to avoid charges, but both Users to such an agreement must notify GGT in writing of their actions. At the conclusion of the Term of the Agreement, the Accumulated Imbalance must be set to zero. If this is not done, GGT will set the Accumulated Imbalance to zero by purchasing or selling gas. Similarly, if a User is liable for an Accumulated Imbalance Charge for seven or more consecutive Gas Days, the User must agree to GGT purchasing or selling gas on the User's behalf to set the Accumulated Imbalance to zero.

In the event that GGT purchases gas to set a User's Accumulated Imbalance to zero, the User will be invoiced for the gas at twice the prevailing Used Gas price and if GGT sells gas to set a User's Accumulated Imbalance to zero, the User will be invoiced for the gas at half the prevailing Used Gas price (GT&C clause 7.2(j)).

Clause 7.2(h) of the GT&C provides that gas prices are those reasonably nominated by GGT, which may vary from time to time.

6.8.1.1 Submissions from Interested Parties

There were no submissions from interested parties in relation to the accumulated imbalance charge.

6.8.1.2 Additional Considerations of the Regulator

Clause 7.2(d) (Accumulated Imbalance Charge) of the GT&C states that this charge will be applied when the respective tolerance is exceeded. However, the quantity upon which this

charge is levied includes the tolerance. In general, industry practice is that charges are levied only on quantities that exceed the tolerance.[109] The Regulator considers that in view of general industry practice charges should not be based on an amount that includes the amount of any tolerance.

The same issue applies in respect of clause 7.5(c) (Variance Charge) of the GT&C discussed below and a further amendment has been sought.

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

Amendment 44

Clause 7 and/or the Sixth Schedule of the GT&C should be amended so that the Accumulated Imbalance Charge does not apply in respect of the amount of the tolerance allowed.

6.8.2 Daily Overrun Charge

If at the end of any Gas Day a User's Daily quantity of gas received at the Inlet Point is greater than the User's MDQ and/or the User's Daily quantity of gas delivered at an Outlet Point(s) is greater than the User's MDQ, GGT may at its discretion require the User to pay a Daily Overrun Charge.

If applied the Daily Overrun Charge[110] is calculated as follows:

$$DO\_C = DOQ \times 1000 \times (Trans\_Tariff \times DO\_CF)$$

Where:

DO_C	is the Daily Overrun Charge in $
DOQ	is the Daily Overrun Quantity in TJs
Trans_Tariff	is the applicable tariff in $/GJ as defined above.[111]
DO_CF	is the Daily Overrun Charge Factor and has the value ***3.5***, and may be varied by GGT through notice in writing to all Users.

A Daily Overrun Quantity occurs where the daily quantity of gas received at an Inlet Point is greater than the User's MDQ, and/or the daily quantity of Gas delivered at an Outlet Point(s) is greater than the User's MDQ. The Daily Overrun Quantity is defined by clause 7.3(a) of the GT&C as follows:

$$DOQ_n = DG_n - MDQ$$

Where:

DOQ_n	is the Daily Overrun Quantity for the User in TJs for the Gas Day ***n***

[109] The Access Arrangements for the following pipelines only charge or propose to only charge in respect of the excess above the tolerance: Moomba to Adelaide Pipeline, Queensland Gas Pipeline, DBNGP, Mount Isa Pipeline, Roma to Brisbane Pipeline and the Parmelia pipeline.

[110] As defined by 5(c) of the Sixth Schedule of the GT&C.

[111] Refer page 195 of this Draft Decision.

DG_n	is the Daily quantity of Gas received for the User at the Inlet Point and/or Gas delivered to the User at the Outlet Point(s) in TJs for the Gas Day ***n***
MDQ	is the User's Maximum Daily Quantity in TJs

6.8.2.1 Submissions from Interested Parties

There were no submissions from interested parties in relation to the daily overrun charge.

6.8.2.2 Additional Considerations of the Regulator

The Daily Overrun Charge provided for by clause 7.3 of the GT&C applies to both inlet and outlet quantities. In general, other gas transmission pipeline operators only apply such overrun charges in respect of gas delivered at outlet points. The effect of applying these overrun charges to both inlet and outlet quantities is that the User may be charged twice for the same overrun.

Furthermore, the accumulated imbalance charge already links inlet and outlet gas quantities questioning the need for the Daily Overrun Charge to apply to both inlet and outlet gas quantities. It is general industry practice for inlet quantities not to be subject to Daily Overrun Charges.[112]

The same issue applies in respect of the Hourly Overrun Charge discussed below and a further amendment has been sought.

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

Amendment 45

Clauses 7.3 of the GT&C should be amended so that the Daily Overrun Charge only applies in respect of daily overrun outlet variations.

The Regulator notes that in conjunction with Amendment 45, GGT may wish to strengthen its contractual rights to have greater control of gas inlet and outlet quantities in excess of User's contractual limits. Such additional control is consistent with general industry practice.

6.8.3 Hourly Overrun Charge

If at the end of any hour the hourly quantity of gas received at the Inlet Point is more than the User's MHQ and/or the hourly quantity of Gas delivered at the Outlet Point(s) is more than the User's MHQ, GGT may at its discretion require the User to pay an Hourly Overrun Charge.

[112] For example, the Access Arrangements of the following pipelines apply or proposed to apply overrun charges to outlet quantities only: Moomba to Sydney Pipeline, Moomba to Adelaide Pipeline, DBNGP, Amadeus Basin to Darwin Pipeline, Mount Isa Pipeline, Tubridgi Pipeline, Central West Pipeline, Roma to Brisbane.

If applied the Hourly Overrun Charge[113] is calculated as follows:

$$HO\_C = HOQ \times 1000 \times (Trans\_Tariff \times HO\_CF)$$

Where:

HO_C	is the Hourly Overrun Charge in $
HOQ	is the Hourly Overrun Quantity in TJs
Trans_Tariff	is the applicable tariff in $/GJ as defined above.[114]
HO_CF	is the Hourly Overrun Charge Factor and has the value ***3.5,*** and may be varied by GGT through notice in writing to all Users

An Hourly Overrun Quantity occurs where the hourly quantity of gas received at the Inlet Point is greater than the User's MHQ, and/or the hourly quantity of gas delivered at the Outlet Point(s) is greater than the User's MHQ. The Hourly Overrun Quantity is defined by clause 7.4(a) of the GT&C as follows:

$$HOQ = HG - MHQ$$

Where:

HOQ	is the Hourly Overrun Quantity in TJs
HG	is the Hourly quantity of Gas received from the User at the Inlet Point and/or Gas delivered to the User at the Outlet Point(s) in TJs
MHQ	is the User's Maximum Hourly Quantity in TJs

6.8.3.1 Submissions from Interested Parties

There were no submissions from interested parties in relation to the hourly overrun charge.

6.8.3.2 Additional Considerations of the Regulator

Clause 7.4 of the GT&C provides for an Hourly Overrun Charge to apply to both inlet and outlet quantities. In general, other gas transmission pipeline operators only apply such an overrun charge in respect of gas delivered at outlet points. The effect of applying this overrun charge to both inlet and outlet quantities is that the User may be charged twice for the same overrun.

Furthermore, accumulated imbalance charges already link inlet and outlet gas quantities questioning the need for the Hourly Overrun Charge to apply to both inlet and outlet gas quantities. It is general industry practice for inlet quantities not to be subject to the Hourly Overrun Charge.[115]

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[113] As defined by 5(d) of the Sixth Schedule of the GT&C.

[114] Refer page 195 of this Draft Decision.

[115] For example, the Access Arrangements of the following pipelines apply or proposed to apply overrun charges to outlet quantities only: Moomba to Sydney Pipeline, Moomba to Adelaide Pipeline, DBNGP, Amadeus Basin to Darwin Pipeline, Mount Isa Pipeline, Tubridgi Pipeline, Central West Pipeline, Roma to Brisbane.

The same issue applies in respect of the Daily Overrun Charge discussed above and an amendment has also been sought in that case.

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

Amendment 46

Clauses 7.4 of the GT&C should be amended so that the Hourly Overrun Charge only applies in respect of hourly overrun outlet variations.

The Regulator notes that in conjunction with Amendment 46, GGT may wish to strengthen its contractual rights to have greater control of gas inlet and outlet quantities in excess of User's contractual limits. Such additional control is consistent with general industry practice.

6.8.4 Variance Charge

If at the end of any Gas Day the absolute value of the Variance Quantity is more than the Variance Tolerance, the Access Arrangement proposes that GGT may at its discretion require the User to pay a Variance Charge.

If applied the Variance Charge[116] is calculated as follows:

$$V\_C = VQ \times 1000 \times (Trans\_Tariff \times V\_CF)$$

Where:

V_C	is the Variance Charge in $
VQ	is the Variance Quantity in TJs
Trans_Tariff	is the applicable tariff in $/GJ as defined above.[117]
V_CF	is the Variance Charge Factor and has the value ***2.0,*** and may be varied by GGT through notice in writing to all Users.

The Variance Quantity is the quantity of gas for a particular day:

(1) received at the Inlet Point that is less than or greater than the User's nomination for the Inlet Point; and/or

(2) that daily quantity of gas delivered at the Outlet Point(s) that is less than or greater than the User's nomination for the Outlet Point(s),

and is calculated as follows:

$$VQ_n = abs\ (DG_n - NOM_n)$$

Where:

VQ_n	is the Daily Variance Quantity in TJs for the Gas Day ***n***

[116] As defined by 5(e) of the Sixth Schedule of the GT&C.

[117] Refer page 195 of this Draft Decision.

DG_n	is the Daily quantity of Gas received for the User at the Inlet Point and/or Gas delivered to the User at the Outlet Point(s) in TJs for the Gas Day ***n***
NOM_n	is the User's Nomination for the Inlet Point or Outlet Point(s) in TJs for the Gas Day ***n***

The Variance Tolerance, which if exceeded by the Variance Quantity may give rise to the Variance Quantity Charge, is defined by clause 7.5(b) of the GT&C as that quantity of gas which is calculated as the greater of:

$$VT = NOM_n \times VTF \text{ or}$$

$$\boldsymbol{VT = VTV}$$

Where:

VT	is the Variance Tolerance in TJs
NOM_n	is the User's Nomination for the Inlet Point and/or Outlet Point(s) in TJs for the Gas Day ***n***
VTF	has the value **0.08**
VTV	has the value **1 TJ**

The values of ***VTF*** and ***VTV*** may be modified by GGT through notice in writing to all Users.

6.8.4.1 Submissions from Interested Parties

- AlintaGas

  GGT proposes to impose charges, at GGT's discretion, if a user exceeds the limits set on the Accumulated Balance, Hourly Overrun and Variance Quantities.

  AlintaGas submits that charges should not be imposed unless GGT can demonstrate that a user is consistently and excessively exceeding the limits and GGT is incurring additional costs that it is otherwise unable to recover. The imposition of charges that exceeds GGT' costs of providing the service could result in users reserving additional capacity as a way to mitigate the impact of the charges. This would be an inefficient use of resources.

AlintaGas seeks consideration for the application of all penalty charges to be imposed only where GGT can demonstrate that a User is consistently and excessively exceeding the limits applicable. The Regulator is of the view that since accumulated imbalances, daily overruns and hourly overruns may affect the integrity of the pipeline, GGT should have wide discretion in the application of penalty charges in these cases. However, in the case of variance quantity it is considered reasonable that GGT should not apply a penalty charge unless a User persistently exceeds the variance tolerance.

Variance charges (or similar charges under other names) are applied by other gas transmission pipeline operators around Australia where Users nominate a certain quantity, but persistently deliver and/or take different amounts. In such situations, although the User is operating within its reserved capacity, there are broader impacts of such behaviour. For example, if a User has nominated a quantity in excess of intended usage, any unutilised pipeline capacity may be unavailable to other Users on an interruptible or spot basis.

Persistently nominating gas quantities in excess of intended usage therefore may impede the efficient use of pipeline assets and disadvantage other Users. This problem is accentuated because a pipeline operator needs to configure compressor units to meet the needs of total

nominated quantity. To the extent that the load does not materialise, the compressors have been put into operation needlessly. This increases costs to all Users.

If, on the other hand, a User takes greater than its nominated throughput (but less than its MDQ), and if compression has been configured to accommodate the nominated throughput, the system's ability to support total actual throughput may be compromised, resulting in possible gas delivery restrictions.

The variance charge proposed by GGT has been assessed as commensurate with those of other pipelines (Table 37). However, a number of issues exist in relation to the application of variance charges. In general, variance charges should be applied as a last resort, to prevent persistent and inefficient patterns of behaviour by Users. While GGT has discretion not to apply penalty charges, it is considered that the Access Arrangement should be amended to indicate that the variance charge will not apply in cases where the variance tolerance is exceeded unintentionally and infrequently.

Table 37
Application of Variance Charges

Pipeline Name	Access Arrangement Proposal	Draft/Final Decision
Amadeus Basin to Darwin Pipeline	Variance charges are applicable to daily quantity variances for any day in excess of a grace period of 4 days per month or 24 days per year.	Regulator's decision pending.
Central West Pipeline	Variance charges are applicable to daily quantity variances for any day in excess of a grace period of 4 days per month or 24 days per year.	Final Approval: Accepted.
Moomba to Sydney Pipeline System	No daily variance charges	Draft Decision: Accepted.
Moomba to Adelaide Pipeline System	Variance charges are applicable to daily quantity variances for any day. No grace period given.	Draft Decision: Accepted.
Mildura Pipeline	No daily variance charges	Regulator's decision pending.
Riverland Pipeline	No daily variance charges	Regulator's decision pending.
South West Queensland Pipeline	Variance charges are applicable to daily quantity variances for any day in excess of a grace period of 4 days per month or 24 days per year.	Regulator's decision pending.
Carpentaria Gas Pipeline	No daily variance charges	Regulator's decision pending.

Pipeline Name	Access Arrangement Proposal	Draft/Final Decision
Roma to Brisbane Pipeline	Variance charges are applicable to daily quantity variances for any day in excess of a grace period of 4 days per month or 24 days per year.	Regulator's decision pending.
Queensland Gas Pipeline	No daily variance charges	Regulator's decision pending.
Dampier to Bunbury Natural Gas Pipeline	Variance charges are applicable to daily quantity variances after 21 days of grace period from receipt of a variance notice issued to the User. Variance notice is withdraw if a period of 3 consecutive months has elapsed without the User incurring the variance charge.	Regulator's decision pending.
Tubridgi Pipeline System	No daily variance charges	Draft Decision: Accepted.
Parmelia Pipeline	Variance charges are applicable to daily quantity variances for any day. No grace period given.	Final Approval: Access Arrangement was amended to provide to each User a grace period of 3 days per month.

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

Amendment 47

Clause 7.5 of the GT&C should be amended to indicate that the variance charge will not be applied in cases where the variance tolerance is exceeded unintentionally and infrequently.

6.8.4.2 Additional Considerations of the Regulator

Clause 7.5(c) (Variance Charge) of the GT&C states that this charge will be applied when the respective tolerance is exceeded. However, the quantity upon which this charge is levied includes the tolerance. In general, industry practice is that charges are levied only on quantities that exceed the tolerance.[118] The Regulator considers that in view of general industry practice charges should not be based on an amount that includes the amount of any tolerance.

[118] The Access Arrangements for the following pipelines only charge or propose to only charge in respect of the excess above the tolerance: Moomba to Adelaide Pipeline, Queensland Gas Pipeline, DBNGP, Mount Isa Pipeline, Roma to Brisbane Pipeline and the Parmelia pipeline.

The same issue applies in respect of clause 7.2(d) (Accumulated Imbalance Charge) of the GT&C discussed above and an amendment has also been sought in that case.

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

Amendment 48

Clause 7 and/or the Sixth Schedule of the GT&C should be amended so that the Variance Charge does not apply in respect of the amount of the tolerance allowed.

6.9 OTHER ADDITIONAL CONSIDERATIONS OF THE REGULATOR

6.9.1 Information on Pipeline Operations

The proposed Access Arrangement does not address the provision of information to Users pertaining to nominations, throughput, and variances on a sufficiently timely basis for Users to be able to respond and avoid penalty charges.

Existing technology offers efficient means of providing such information, which can be made sufficiently secure to ensure confidentiality. For example, information may be provided through an electronic bulletin board, updated on a continuous basis, which Users can access to monitor their own user specific information on an as needs basis.

The Regulator considers it reasonable that the Access Arrangement should make provision for user specific information to be available to Users on a timely basis.

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

Amendment 49

The proposed Access Arrangement should be amended to make provision for user specific information to be available to Users on a timely basis to assist them in managing their operations and avoid penalty charges.

Attachment 1

Goldfields Gas Transmission Pty Ltd
ACN 004 273 241
ABN 87 004 273 241
Statement of Tariffs and Charges

TARIFF SETTING PRINCIPLES[119]

The principles which govern tariff setting on the Pipeline (the "Principles") are as follows:

1. Tariffs will be structured to promote the use of the Pipeline.

2. Tariffs will be set to provide a commercial rate of return on all project capital, including all Owners' costs, reasonably incurred in the construction and operation of the Pipeline and to recover all reasonable Pipeline operating, maintenance and administration costs. The commercial rate of return shall be commensurate with the business risk associated with the project.

   For the purpose of this Principle, the Owners will be ascribed a notional tariff based on third party tariffs for their utilisation of Pipeline capacity reserved to the Owners pursuant to clause 8(1) of the GGP Agreement.

3. Users may be categorised into a User group on the basis of the nature of the service or the duration of the service they are seeking. Users cannot be categorised into a User group on the basis of their credit worthiness or on the basis of the volume of their capacity purchase.

4. Tariffs will not discriminate between Users in a common User group.

5. Credit support may be requested of a User, before a service contract is accepted, in the event of a genuine concern regarding User's credit worthiness.

6. A minimum account or similar charge may be made to recover the Owners' reasonable costs in regard to connection of a User to the Pipeline and contract administration.

7. Tariffs will have a capacity reservation component, and a throughput component, and will be structured to promote the utilisation of reserved capacity.

8. Tariffs will be structured to recover the capital cost of the Pipeline equitably over time.

9. Tariff differences between User groups will effect the character of the service to be provided (particularly in terms of the distance of carriage, term of the contract and whether the contract is for interruptible or firm capacity) and the time at which service contracts are entered into.

10. All Firm Transportation Service tariffs will be set by reference to the Benchmark Tariff.

11. Contracts should not set tariff caps in excess of 20 years from the execution thereof.

12. At any time when the tariffs for Pipeline services then being applied:

    do not promote the use of the Pipeline; or

    do not promote the efficient use of reserved capacity; or

    generate a rate of return to the Owners which is inconsistent with Principle (2) above, except where the Owners elect to exercise Principle (13).

[119] Tariff Setting Principles approved under the State Agreement Act and provided by GGT applicable to the Goldfields Gas Pipeline.

the tariffs shall be re-determined, and that re-determination shall be applied so as to ensure the Principles are satisfied. Such re-determination shall not, under any circumstances, oblige the Owners to adopt a tariff which does not satisfy Principle (2).

I Where a tariff re-determination results in a change being made to the Firm Transportation Service tariff, the new tariff shall apply, without any derogation of any existing contractual right, as far as is possible uniformly across all new and existing Firm Transportation Service contracts, and for each existing contract:

(a) if the resulting Firm Transportation Service tariff is less than the Contract Tariff (being those charges specified in the Firm Transportation Order Form submitted by the User and accepted by the Owners), then the new Firm Transportation Service tariff shall apply.

(b) if the resulting Firm Transportation Service tariff exceeds the Contract Tariff, then the Contract Tariff shall apply.

II Where a tariff re-determination results in a discount being offered on the Firm Transportation Service tariff, the discount charge shall apply, as far as is permitted by existing contracts and these Principles, and for each new and existing Firm Transportation Service contract:

(a) if the resulting discounted charge is less than the Contract Tariff then the discounted charge shall apply irrespective of whether it represents an increase or a decrease over any discounted charge for the service applicable immediately prior to the re-determination.

(b) if the discounted charge exceeds the Contract Tariff then the Contract Tariff shall apply.

Tariffs for services other than the Firm Transportation Service shall be reviewed at the time of any Firm Transportation Service tariff re-determination so as to ensure they continue to comply with the Principles.

13. Subject to compliance with all the Principles (except Principles (2) and (12)), the Owners, at their sole discretion, may set tariffs, or allow tariff to remain operative, which are equal to or less than those resulting from the application of Principle (2) and such tariffs shall be applied in a manner consistent with provisions I and II of Principle (12).

The following definitions apply to the above Principles.

"Firm Transportation Service" means an agreement between a User and the Owners to reserve Pipeline capacity on an uninterruptible basis.

"Benchmark Tariff" means the tariff applicable to a Firm Transportation Service Contract for the longest contract term not exceeding 20 years offered by the Owners to Third Parties in the Alternate General Terms and Conditions.

"Pipeline" means the Pipeline as defined in the Goldfields Gas Pipeline Agreement Act 1994.

"User" means a person contracting with the Owners to reserve capacity in the Pipeline for the purpose of transporting gas.

"Owners" means the Goldfields Gas Transmission Joint Ventures consisting of Southern Cross Pipelines Australia Pty Ltd (ACN 084 521 997), Southern Cross Pipelines (NPL) Australia Pty Ltd (CAN 085 991 948) Duke Energy WA Power Pty Ltd (CAN 058 070 689)).

Terms used in these Principles have the same meaning as they have in the respective service agreements and the Alternate General Terms and Conditions.