APT Petroleum Pipelines Limited
ACN 009 737 393

ACCESS ARRANGEMENT INFORMATION FOR ROMA BRISBANE PIPELINE

Lodged with the ACCC

Under the National Third Party Access Code for Natural Gas Pipeline Systems

28 February 2007

Approved by the ACCC
28 March 2007

Commences 12 April 2007

Australian Pipeline Trust

TABLE OF CONTENTS

1 Introduction

1.1 Purpose of Access Arrangement Information

This Access Arrangement Information (AAI) is lodged by APT Petroleum Pipelines Limited ACN 009 737 393 (APTPPL). APTPPL is a wholly owned subsidiary of the Australian Pipeline Trust ARSN 091 678 778.

APTPPL is the owner of the Roma to Brisbane Pipeline (RBP).

This AAI has been prepared and lodged pursuant to Section 2 of the National Gas Code in support of the revised Access Arrangement submitted by APTPPL on 28 February 2007. Attachment 1 shows the information categories required by Attachment A of the Code and indicates where this information is contained within this document.

A map of the RBP is set out in Attachment 2.

Projections in this AAI have been prepared to meet the requirements of the Code and are based on a number of assumptions. APTPPL does not make any representation or warranty as to the accuracy of the assumptions.

The following points apply throughout the AAI:

- Terms defined in the Access Arrangement and the National Gas Code have the same meaning in this AAI;
- Totals shown in tables in this AAI may not equal the sum of the elements of the tables due to rounding;
- Years shown in tables refer to financial years;
- Financial values shown in tables are real values in July 2006 $ (based on forecast CPI) unless otherwise indicated; and
- References to the ACCC should be read as referring to the relevant regulator under the National Gas Code.

1.2 Background to the Roma Brisbane Pipeline

The RBP was developed in the mid 1960s and commissioned in 1969 to transport gas from Wallumbilla (near Roma) to industrial gas users in Brisbane. Since that time, the capacity of the RBP has been expanded through compression and looping. In addition a Lateral pipeline connecting the RBP to gas sources in the Peat / Scotia region was commissioned in 2001. The expansions of RBP capacity and the construction of the Lateral pipeline occurred in response to market growth, and were underpinned by contracts negotiated with third parties such as producers, power stations, gas utilities and major industrial customers.

The RBP currently receives gas from numerous receipt points and delivers gas to numerous delivery points. Additional receipt and delivery points have been added from time to time.

An Access Arrangement was established for the RBP in 2002, but due to the derogations applying under Queensland legislation, the provisions of the Code dealing with establishment of Reference Tariffs, including the establishment of an Initial Capital Base, did not apply to that Access Arrangement. Accordingly for the purpose of establishing financial parameters used in deriving Reference Tariffs this Access Arrangement is regarded as the initial Access Arrangement.

1.3 Key Dates

Dates in the history of the expansion of the RBP are shown below in Table 1.

Table 1: RBP Key Dates

Date (Calendar year)	**Event**
1969	Pipeline construction completed.
1982	Dalby Compressor installed. Kogan Compressor installed.
1983	Oakey Compressor installed.
1984	Condamine Compressor installed.
1985	Yuleba Compressor installed.
1986	Gatton Compressor installed.
1988	Looping 1 completed.
1989	Looping 2 completed.
1998	Looping 3 completed.
2000	Looping 4 completed.
2001	Peat Lateral completed.
2001	Looping 5 completed.
2002	Looping 6 completed.
2003	Scotia extension to Peat Lateral completed.

2 Access & Pricing Principles

2.1 System Definition

The RBP consists of:

(a) the mainline pipeline from Wallumbilla (near Roma) to Brisbane (terminating at Gibson Island) and associated facilities **(Mainline);**

(b) the lateral pipeline from Arubial on the Mainline to Peat / Scotia, and associated facilities **(Lateral).**

The Mainline was included in Schedule A to the Code and is therefore a Covered Pipeline. APTPPL voluntarily Covered the Lateral from 1 January 2006.

The Access Arrangement applies to the Mainline and Lateral as configured at 31 January 2006. The Reference Tariff has been derived on the basis of the capacity existing at that date (**Existing Capacity**). There have been no material changes to the configuration of the RBP between 31 January 2006 and 28 February 2007.

2.2 Determination of Total Revenue

The Total Revenue is determined through the NPV methodology as permitted under Section 8.4 of the Code.

In determining the Total Revenue APTPPL has adopted a real approach as permitted under Section 8.5A of the Code. The Total Revenue is based on:

(a) a real rate of return being applied to the real Capital Base; and

(b) depreciation, capital costs and non-capital costs are expressed as real values.

No amount in respect of capacity expansion is included in the derivation of Total Revenue.

The model used to derive Total Revenue is an annual model.

2.3 Reference Service and Cost Allocation

There is one Reference Service offered on the RBP - a firm, forward haul service for receipt, transport and delivery of gas in the direction from Wallumbilla or Peat to Brisbane. Consistent with existing contracts and customer enquiries, APTPPL considers this to be the Service likely to be sought by a significant portion of the market[1].

All of the Total Revenue is allocated to the Reference Service over the Access Arrangement Period.

[1] As required by Code 3.3 (a)

No allowance has been made for revenue that may accrue from the sale of Negotiated Services that may be entered into following any capacity expansion of the RBP, as no capital in respect of such expansion has been included in the calculation of the Total Revenue.

In deriving Reference Tariffs no allowance has been made for revenue that may accrue from any other charge as these are not considered material. Other charges include, but are not limited to, overrun charges, balancing charges, daily variance charges and charges payable in respect of receipt points and delivery points.

The Reference Service has a two-part tariff, being a Capacity Charge (expressed as dollars per GJ of MDQ per Day) and the Throughput Charge (expressed as dollars per GJ).

The allocation of revenue between Capacity Charge and Throughput Charge is 95% to Capacity Charge and 5% to Throughput Charge. This reflects the fact that almost all of the costs of providing Services are fixed and do not vary with the quantity of gas transported.

The Reference Tariff is a single tariff for receipt, transport and delivery of gas anywhere within the RBP system. This broadly reflects the tariff structure for existing contracts.

2.4 Price Path and Incentive Mechanism

As permitted by the Code in 8.3 (b) APTPPL has adopted a Price Path Approach, under which Reference Tariffs are determined for the whole Access Arrangement Period to follow a path forecast to deliver the Total Revenue.

As Reference Tariffs were determined on the basis of assumed movements in CPI over the Access Arrangement Period, the Access Arrangement provides for Reference Tariffs to be adjusted to reflect actual movements in the CPI[2].

The prospect of retaining improved returns for the Access Arrangement Period provides an incentive for APTPPL to seek to sell additional Services and to minimise the cost of providing Services consistent with Sections 8.44 to 8.46 of the Code. This includes non-capital costs and stay in business capital.

[2] APTPPL has adopted a real approach to the derivation of Total Revenue as allowed by 8.5A of the Code.

3 Revenue Requirement

This section sets out the parameters used in determining Total Revenue for the Access Arrangement Period.

3.1 Initial Capital Base

The Initial Capital Base is set at $296.41 million in $July 2006, allocated as per Table 2 below. This figure is based on an ORC which reflects the efficient costs of replacing the service potential of the existing RBP, and the Commission's preferred straight line DORC methodology.

The allocation of this ICB to asset segments is based on the same allocation methodology used by the Commission in their Final Decision. The allocation methodology is based on taking the proportion of the original costs (in 2006 $) for each pipeline segment and using these to allocate the ORC to each of the asset classes. The DORC for each asset is then derived by depreciating the ORC.

Note that in Table 2 the straight line DORC and the ICB have identical values.

Table 2: Initial Capital Base

ACCC proposed ICB calculations by segments	**ORC**	**Straight Line DORC**	**ICB**
	$m (July 2006)		
Pipeline	374.9	261.6	261.6
Compressors	48.7	18.7	18.7
Easements	13.8	13.3	13.3
Communications	5.0	3.3	3.3
Sub-total	**442.4**	**296.9**	**296.9**
Less linepack	0.5	0.5	0.5
Total	**441.9**	**296.4**	**296.4**

3.2 Estimated Capital Expenditure

The Total Revenue includes minor capital expenditure and stay in business capital. It does not include any capital expenditure to fund any expansions or extensions of the Pipeline as Reference Tariffs are being established for the Existing Capacity.

Minor capital expenditure and stay in business capital covers replacement of miscellaneous capital equipment and enhancements of peripheral and utility systems and equipment. Capital expenditure forecast during the Access Arrangement Period includes instrumentation (metering, telemetry remote terminal units etc), pipeline hardware (valves, regulators and fittings), minor site capital improvements and specialised major spares.

Forecast capital expenditure costs on the RBP are made up of the following items:

- Pigging program in 2007 and 2010. Regulations require regular pipeline inspections, for example AS 2885.3 requires periodic inspections with the frequency dependent on the condition of the pipeline and the Queensland Petroleum and Gas (Production and Safety) Act requires pigging of established pipelines to be carried out at least every 10 years.
- Pipeline excavation and inspection program from 2007 to 2011 is required as part of the pigging program.
- Coating defect assessment in 2009. Prudent periodic inspection is required to verify pipeline integrity for AS 2885.3 compliance.
- Compressor overhauls from 2007 to 2011. These are undertaken by APTPPL to ensure the safe and reliable operation of the pipeline and are related to the manufacturer's standard. These overhauls are capitalised.
- Minor capital and stay in business capital - this includes such items as hazardous area rectification, fire suppression systems, noise suppression systems, pipeline slabbing, cathodic protection upgrade, SCADA upgrade, compressor exhaust system upgrade, purchase of additional specialised tools and equipment and replacement of vehicles and specialised tools and equipment. This capital spending is required to continue the safe, reliable and efficient operation of the pipeline.
- Access Arrangement costs - these costs are capitalised over the length of the Access Arrangement;
- RBP proportion of a new APT IT system.

To recognise the need for additional minor capital work to be undertaken as the pipeline ages the above costs, with the exception of Access Arrangement costs and IT upgrade costs, escalate by 1% on a year to year basis.

Table 3 below shows the amounts for these items.

Table 3: RBP Capital Expenditure (July 2006 $M)

Capital Expenditure	2006-7	2007-8	2008-9	2009-10	2010-11
Pigging	1.00	-	-	0.66	-
Coating defect assessment	-	-	0.17	-	-
Pipeline excavation and inspection	0.19	0.19	0.19	0.19	0.20
Compressor overhauls	0.31	0.32	0.32	0.32	0.32
Minor and stay in business capital	2.04	1.59	0.94	0.81	0.71
Access Arrangement costs	0.50	-	-	-	-
IT system upgrade	0.10	-	-	-	-
Total	**4.14**	**2.09**	**1.62**	**1.98**	**1.23**

3.3 Depreciation of Capital Base

The asset lives and remaining lives as at 1 July 2006 are shown in Table 4.

Table 4 Asset Economic Lives

Asset Class	Economic Life (years)	Remaining Economic Life At 1 July 2006
Transmission Pipeline		
- *Original*	60	23
- *Looping 1*	80	62
- *Looping 2*	80	64
- *Looping 3*	80	72
- *Looping 4*	80	75
- *Looping 5*	80	77
- *Looping 6*	80	77
- *Lateral*	80	75
Compressor Stations		
- *Dalby*	35	11
- *Kogan*	35	11
- *Oakey*	35	12
- *Condamine*	35	13
- *Yuleba*	35	15
- *Gatton*	35	16
Easements	1000	963
Communications	15	10

The opening value for the Initial Capital Base (July 2006) and the forecast change in the value of the Capital Base over the Access Arrangement Period are shown in Table 5. At the end of the Access Arrangement Period this value will be adjusted to reflect actual rather than forecast new facilities investment, redundant capital and inflation as measured by the annual CPI.

Table 5 RBP Capital Base Roll-Forward (July 2006 $M)

	2006-7	2007-8	2008-9	2009-10	2010-11
Opening Asset Value	296.41	294.81	290.83	286.30	282.02
Capital Expenditure	4.25	2.14	1.66	2.04	1.27
Depreciation	5.85	6.12	6.19	6.32	6.62
Closing Value	294.81	290.83	286.30	282.02	276.67

3.4 Cost of Capital

The methodology used by APTPPL is a weighted average cost of capital (WACC) approach based on the capital asset pricing model (CAPM). A post-tax approach to calculate the rate of return is used.

3.4.1 WACC Parameters

The cost of capital parameters used are outlined in Table 6 below.

It should be noted that this table is identical to the Commission's Final decision with one exception. The exception is a slight change to the effective tax rate, which has increased to 17.17%, and consequently the pre tax real WACC has also increased slightly to 5.88%. These changes occur due to the change in the ICB and the attendant change in the tariff path.

Table 6 WACC parameters

CAPM Parameter	ACCC final decision
Nominal Risk Free Rate	5.70%
Real Risk Free Rate	2.41%
Inflation Rate	3.21%
Debt to Equity Ratio	60:40
Corporate Tax Rate	30.00%
Effective Tax Rate	17.17%
Cost of Debt Margin over Risk Free Rate	1.14%
Cost of raising debt	0.104%
Market Risk Premium	6.0%
Value of imputation Credits	50.0%
Equity Beta	1.0

3.4.2 Cost of Capital

The cost of capital calculated values derived from these parameters are shown in Table 7 below.

Table 7 WACC

Cost of Capital Measure	ACCC final decision
Nominal Return of Equity	11.70%
Nominal Vanilla WACC	8.84%
Real Vanilla WACC	5.45%
Pre-Tax Real WACC (Corporate Tax Rate)	6.25%
Pre-Tax Real WACC (Effective Tax Rate)	5.88%

3.5 Non-Capital Costs

The Total Revenue includes non-capital costs incurred in the delivery of the Reference Service. All non-capital costs have been allocated to the Reference Service.

Forecasts of non-capital costs are provided in Table 8.

These forecasts have been based on direct costs to APTPPL of operating the RBP including services being provided by Agility Management Pty Limited (Agility) on a contract basis, and an allocation of APT Corporate overheads.

The efficiency of non-capital costs for the RBP is discussed in Section 6 of this AAI.

3.5.1 APT Corporate Costs

APT corporate costs include items such as salaries, director's fees, rent, office costs, IT costs, communications costs, costs associated with stock exchange listing (eg share registry fees, annual report preparation) and other costs incurred in the operation of the APT Group.

Corporate costs have been allocated as follows:

- **Labour costs** - allocations are determined for each staff member as follows:
  - Staff that perform a significant amount of work directly related to the RBP (eg staff in Queensland) are allocated at a percentage reflecting the proportion of their work involving the RBP.
  - Staff whose work covers the whole company and whose costs are otherwise not allocated are allocated at approximately 14% to the RBP.
  - Staff whose work does not relate to the RBP (eg staff in Western Australia) are allocated at 0%.

The forecast costs of labour as determined by the Commission in its Final Decision are outlined in Table 8 below. These costs are escalated as follows

2006-7	*2007-8*	*2008-9*	*2009-10*	*2010-11*
5.6%	*5.8%*	*5.3%*	*3.5%*	*3.5%*

- **Non-labour costs** - there is an allocation process between direct and non-direct costs related to the RBP.
  - Direct costs are 100% attributed.
  - Queensland office costs are 75% attributable to the RBP. The APT Queensland office is responsible for the Roma Brisbane Pipeline and the Carpentaria Gas Pipeline. The work undertaken is predominantly driven by contract management and legal and commercial issues. This allocation is broadly consistent with the number of contracts on the RBP and the differing amounts of work undertaken in relation to the various pipelines.
  - The remaining costs are allocated at approximately 14% to the RBP.

These costs are escalated at CPI.

3.5.2 Operations and Maintenance Cost

Agility provides operations and maintenance services for the RBP.

The forecast cost of services provided by Agility, and of spare parts, is $5.8 million in 2006. This escalates generally in line with CPI. The services include all asset management, operations and maintenance work required for the safe, efficient and compliant operation of the RBP, as configured at 31 January 2006. The amount paid to Agility Management includes the costs of direct operations, operations support, engineering support, pipeline maintenance and easement management. Key categories of this work are:

- Planned and corrective maintenance on pipework and compressors
- Planned and corrective easement patrol and easement management
- Planned and corrective cathodic protection
- Pipeline monitoring and control (ie control centre functions including telemetry)
- Asset maintenance planning and scheduling
- Asset performance testing and validation
- Accounting for day-to-day operations
- Regulatory compliance obligations relating to technical regulatory compliance and maintenance of asset records. This includes compliance with licenses, AS 2885, environmental regulations etc.

3.5.3 Other Costs (Insurance, License Fees, Government Charges etc)

Insurance, license fees, rates and other government charges are $0.40 million.

Insurance is based on a quote for the stand-alone cost to insure the RBP. The other costs are based on actual costs.

These costs are escalated at CPI.

3.5.4 Additional Non-Capital Costs

APTPPL has included an amount for additional operating expenditure as a result of increased security measures. APTPPL is undertaking reviews of the security of key infrastructure with a view to improving the security of key installations. Additional expenditure is due to additional patrols, remote monitoring, programs to assess security risk and development of contingency capabilities.

The amount included in the forecast costs is $100,000 per annum. These costs are escalated at CPI.
Gas used in operations as either compressor fuel or unaccounted for gas is included in non-capital costs[3].

No amount is included for the Agility management fee or self insurance costs (as required by the Commission's Final Decision).

Forecast non-capital costs are shown in Table 8 below.

Table 8 Total Non Capital Costs (July 2006 $M)

Non-Capital Expenditure	2006-7	2007-8	2008-9	2009-10	2010-11
Wages and salaries	0.83	0.85	0.87	0.87	0.87
APT Other Corporate Costs	1.16	1.16	1.16	1.16	1.16
Operations and Maintenance, Insurance, License Fees and Security	6.32	6.27	6.21	6.16	6.11

[3] Note that Users supply compressor fuel and unaccounted for gas is negligible.

Total	8.31	8.28	8.24	8.19	8.14

3.6 Total Revenues

The Total Revenue for the Access Arrangement Period is set out in Table 9.

Table 9 Total Forecast revenue (July 2006 $M)

	2006-7	2007-8	2008-9	2009-10	2010-11
Return on Capital	16.17	16.08	15.86	15.62	15.38
Non-Capital Costs	8.31	8.28	8.24	8.19	8.14
Tax	0.69	0.74	0.79	0.82	0.91
Depreciation	5.85	6.12	6.19	6.32	6.62
Total revenue	31.01	31.22	31.08	30.94	31.06

3.7 Allocation of Total Revenue

Reference Tariffs for the Reference Service are determined to recover the Total Revenue over the Access Arrangement Period. The Tariffs are based on the volume forecast set out in Section 4.1 of this AAI.

Following calculation of the Total Revenue the revenue is allocated to Reference Tariffs. All Total Revenue is allocated to the Reference Tariff. There is no allocation to other services.

3.7.1 Price Path

The Reference Tariff for the year commencing 1 July 2006 as follows (excluding GST):

(a) Capacity Charge $ 0.4243/ GJ of MDQ capacity / Day; and

(b) Throughput Charge $ 0.0283/ GJ throughput.

With the price path thereafter to be linked to a CPI – X adjustment as shown in the Access Arrangement where X equals 0.80% for the term of this Access Arrangement.

Inflation is estimated at 3.21% per annum, as indicated in Section 3.4.1 of this AAI. Under the Access Arrangement, Reference Tariffs are adjusted annually to reflect actual inflation

The Reference Tariffs, exclusive of GST, for each year of the Access Arrangement Period will be adjusted on 1 July 2007 and on 1 July in each subsequent year to reflect movements in the CPI.

4 Volumes and Tariff Schedule

4.1 Forecast Volumes

The following Table 10 sets out APTPPL's forecast of RBP throughput and peak day capacity. This forecast is for Services provided by the Existing Capacity.

The forecast volumes are able to exceed the nominal capacity of 180 TJ as load is withdrawn from the Mainline upstream of capacity constraints and slightly downstream of a major Receipt Point. The determination of spare capacity available for each Delivery Point is dynamic. As quantities are contracted for a particular Delivery Point, the dynamics of the total system change. The effect on overall system capacity of a delivery to a point closer to the Receipt Point is less than that of a delivery to the extremities of a system.

The Commission has accepted these reference tariff forecasts.

Table 10 Forecast RBP Volumes for the Pipeline as Configured 31 January 2006

Volumes	2005-6	2006-7	2007-8	2008-9	2009-10	2010-11
Firm MDQ Commitments TJ/ Day	177.5	196.2	199.1	199.8	200.5	202.9
RBP Forecast Throughput (PJ/pa)	51.1	56.5	57.3	57.5	57.7	58.4

5 System Information

5.1 System Capability and maximum delivery capability

The capacity of a pipeline system is determined by a set of operating and technical parameters. These include, but are not limited to, the following:

- pipeline size
- pipeline inlet and outlet pressures
- pipeline inlet and outlet locations
- gas temperature
- gas quality;
- ambient conditions (temperatures)
- receipt and delivery flow profiles (hourly/daily/weekly)
- the distribution of the demand on the pipeline system
- compressor operation.

As gas travels along a pipeline its pressure gradually declines, mainly due to friction. To increase delivery capacity, compressors are used to boost the pressure as required. The RBP currently has six mainline compressor stations.

The current nominal capacity of the total RBP system is approximately 180 TJ/d based on a number of major assumptions including a minimum receipt pressures at receipt points, delivery point weekly load profiles, no use of capacity for storage, compressor operation etc.

5.2 Map of pipeline system

A map of the RBP is attached as Attachment 2 of this AAI.

5.3 Average Daily and Peak demand and Annual volume

The following Table 11 contains average and peak day throughput for major Delivery Points on the RBP.

Table 11 Average and Peak Day Throughput (GJ/D) (Actual 2004-5)

Major Delivery Point	Average daily throughput	Peak day throughput	Minimum Delivery Pressure (kPag)
Condamine (not operational at Dec 2005)	NA	NA	4,000
Dalby	450	924	1,500
Oakey PS	3,515	26,613	3,000
Oakey	815	2,348	1,000
Toowoomba	2,758	5,033	1,000
Sandy Creek	209	848	400
Brightview	118	3,994	500
Riverview	1,198	1,875	1,500
Redbank	1,706	2,786	1,000
Ellengrove	5,262	7,090	1,500
Swanbank	25,539	48,479	4,500
Runcorn	8,774	12,638	1,500
Mt Gravatt	2,290	3,091	1,500
Tingalpa	6,779	8,427	1,500
Murarrie	36,084	45,742	1,500
Doboy	780	1,924	1,500
Gibson Island	35,243	38,585	1,500
Total	131,520	210,397*	
Total System Wide Peak Day (receipts)		178,197	
Total System Wide Peak Day (deliveries)		168,902	

* Note the peak day throughput is the peak throughput for each individual delivery point - not the throughput through each off take on the system peak day.

5.4 Physical dimensions - Pipe Sizes and Distances.

This section provides details relating to the technical specifications of the RBP. The applicable construction Codes were ASME B31.8 for Original Pipeline and AS2885 for looping and the Peat Lateral

Key RBP system characteristics and parameters include in Table 12.

Table 12: RBP System Characteristics and Parameters

Commissioning Dates and Lengths	
Original pipe	Commissioning date – March 1969

	Mainline (Wallumbilla to Bellbird Park) – 397 km Metro Section (Bellbird Park to Gibson Island) - 42km.
	Commencement dates
Looping 1	July 1988 69.54 km
Looping 2	Sept 1989 70.95 km
Looping 3	February 1990 53.17km
Looping 4	June 2000 61.72km
Looping 5	December 2001 139.47km
Looping 6	August 2002 11.00km
Peat Lateral	Commissioning date - 2001. Total length 121 km
Steel grade	
Original pipe	API 5L x46 / X42
Looping 1	API 5L X60
Looping 2	API 5L X60
Looping 3	API 5L X60
Looping 4	API 5L X60
Looping 5	API 5L X70
Looping 6	API 5L X60
Peat Lateral	API 5L X60
Pipeline Diameter	
Original Pipe	DN250mm (10”) Wallumbilla to Bellbird Park City Gate Station; DN300mm (12”) Bellbird Park City Gate Station to SEA B/V DN200 (8”) SEA B/V to Gibson Island
Looping	DN400mm (16”) Looping
Peat Lateral	DN250mm (10”)
Pipeline Wall Thickness	
Original pipe	4.78mm, 5.15mm, 6.35mm.
Looping 1	6.4mm, 7.7mm
Looping 2	6.4mm, 7.7mm
Looping 3	6.6mm, 7.9mm, 9.5mm
Looping 4	6.6mm, 7.9mm, 8.4mm
Looping 5	5.7mm, 6.8mm, 8.1mm

Looping 6 Peat Lateral	9.5mm 4.78, 5.7mm
Maximum Allowed Operating Pressure	
Original pipe Looping Peat Lateral	DN250mm (10" Mainline) Roma to Bellbird Park - 7,136 kPa; DN300mm (12") Bellbird Park to SEA B/V - 4,200 kPa; DN200 (8" SEA B/V to Gibson Island)- 4,200 kPa; DN400mm (16" Mainline) Roma to Bellbird Park - currently 8,000 kPa, but designed to 9,600 kPa 10,200 kPa
Other Specifications	
Original Pipe and Looping External coating Valve coating Joint coating Concrete coating **Peat Lateral** External coating Above Ground facility	 Polyken over ditch wrap and 1.2mm HDPE factory applied coating. 2000 microns Taubmans Intertuff UHB or other approved two part epoxy. Denso 543/ R23 over approved primer or Polyken 943 inner & 955 outer over Polyken 1027 primer. Heat shrink sleeves to Looping 1 and 2. Weighted coated pipe at watercourse crossings where necessary HDPE AS 1518 minimum thickness of 1.2mm All above ground pipework and steelwork is painted with a high quality corrosion resistant paint

	system.
Below ground	Below ground Dulux Luxaflex
Joint coating	Polyken 9454
Compressor station sites Original pipe	10" Mainline (Original pipe) Yuleba, Kogan and Oakey
Looping	16" Mainline (Looping) Condamine, Dalby and Gatton.
Installed compression	Kogan 1981 Dalby 1981 Oakey 1982 Condamine 1984 Yuleba 1985 Gatton 1986
Active inlet custody transfer meter stations	Wallumbilla (4 meter runs) and Interconnect with Peat Lateral (PPL 42) On PPL42 (Peat Lateral) - Scotia and Woodroyd
Active sales outlet custody transfer meter stations	Condamine, Dalby, Oakey, Toowoomba, Sandy Creek, Brightview, Riverview, Redbank, Ellengrove, Swanbank, Runcorn, Mt Gravatt, Tingalpa, Murarrie, Doboy and Gibson Island Note that gas from the Peat Lateral enters the Mainline at Arubial Pressure Reduction Station
Main Line Valves	DN250 (10"): MP20, MP40.4, MP63, MP86.05, MP106.27, MP117.4, MP128, MP142.24, MP189, MP200.97, MP217.15, MP236.97m MP248.06. DN400 (16"): MP14, MP54, MP100.5, MP152.8, MP178, MP189, MP217.5, MP236.97, MP245.6. Peat Lateral Scotia (SW0) Woodroyd (WA0), L-Tree Creek W-A 51.96, Arubial

	(WA 110.7)
Scraper (pig) launch and/or receive facilities	DN250 (10"): MP0, MP33.4, MP67.4, MP100.4, MP133, MP167.2, MP207. DN400 (16"): MP0, MP33.4, MP67.4, MP100.5, MP133, MP167.2 Peat Lateral Scotia (SW0) Woodroyd (WA0), Arubial (WA 110.6)
Maintenance bases	Wallumbilla, Condamine, Dalby, & Gatton
Pipeline control	Mt Gravatt
Right of Way identification Marker tape Depth of cover Concrete slabs Depth of cover	Signage generally at 250m interval or line of sight. Marker tape in designated areas (built up areas, road crossings etc) Depth of Cover: 750 – 1,000 mm in roads and most locations 1,200 mm for directional drills 1200 mm under roads, rail or watercourse crossings & possible future T1 areas. Looping 1 to 4 & 6 1200mm or greater. Looping 5: 750mm in private land 750mm or greater - West of Dalby 900MM or greater – East of Dalby. Peat Lateral Rural Areas (R1) 750mm, Rural Areas (R2) 900mm, Roadways 1200mm. Rail crossings 2000 mm, Watercourse/road crossing 1800mm

	Concrete slabbing is provided at locations for extra protection including: • Road crossings • At locations where depth of cover or wall thickness is insufficient.

5.5 System Load Profile by Month

The monthly load profile is based on load profiles from 2004-5. The load profile is presented in terms of percentages. See Table 13 below.

Table 13 System Load profile by month

Month	% of total Annual Load
January	8.6 %
February	8.5 %
March	8.8 %
April	8.6 %
May	8.0 %
June	7.8 %
July	8.1 %
August	6.9 %
September	8.7 %
October	8.5 %
November	9.1 %
December	8.4 %
Total	**100 %**

5.6 Numbers of Users on the RBP as at 31 January 2006.

Table 14 below shows the number of Users on the RBP at 31 January 2006.

Table 14 Users on the RBP

Type of service	Number of Users
Firm	5
Interruptible Only	1
All	**6**

6 Efficient Costs and Performance Measures for Pipelines

6.1 Efficient Costs

Section 8.1 (a) of the Code provides that a Service Provider's Reference Tariff and Reference Tariff Policy should be designed to provide the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient cost of delivering the Reference Service. Section 8.37 of the Code defines efficient costs as those incurred by a prudent Service provider acting efficiently, in accordance with accepted and good industry practice to achieve the lowest sustainable cost of delivering the Reference Service.

6.2 Issues Relating to Performance Measures and Benchmarking of Transmission Pipelines

6.2.1 Differences in pipeline characteristics

It is important to recognise the limitations of benchmarking. The numerous variables that can and do affect costs means that benchmarking can only provide a broad indication of whether a particular pipeline's costs lie within the range of possible efficient costs.

There is a difficulty in "normalising" pipelines to yield meaningful benchmarking comparisons due to differences in the following pipeline characteristics:

- pipeline distance
- pipeline diameter
- pipeline remoteness
- pipeline age and condition
- operational characteristics such as the number of compressors, receipt points and delivery points
- markets served
- natural and man-made environment through which the pipeline passes.

Any comparisons involving the RBP should take account of the following factors:

- The RBP is a looped pipeline with two different sizes of pipe running parallel to each other, sometimes in the same easement and sometimes in separate easements. No other major pipelines in Australia have this degree of looping.
- Some operating cost items such as vegetation management and easement surveys are significantly driven by both the length of the pipeline route and the nature of the environment through which the pipeline runs. The pipeline route of the RBP is approximately 440km for the Mainline and 121km for the Lateral. Approximately 10% of the Mainline passes through the built up area of Brisbane, resulting in an increased level of easement management and maintenance, compared to other pipelines crossing open or non-urban country.
- Some operating cost items such as internal inspections ("pigging") and cathodic protection are driven by the actual length of the pipe. In the case of the RBP, the relevant length for such costs is approximately 965km (rather than the 560km of the pipeline route).

- The number of compressors on the pipeline affects the operation and maintenance costs. The RBP is relatively heavily compressed, with six compressors installed.
- The size and age of compressors affects the relative costs of operating and maintaining the compressors.
- As pipelines age the costs of operation and maintenance generally increase. The original Mainline section of the RBP is relatively old compared with many other Australian pipelines.

6.2.2 Meaningful basis of benchmarks

Benchmarks must have a sound basis to be meaningful. In order to derive a meaningful set of benchmarks it is necessary to have both an understanding of the pipeline industry and its cost drivers.

From APT's experience in constructing and operating pipelines, indicative "rules of thumb" have been developed that are used to estimate total operating costs in investigating new pipeline opportunities. While applying these generalised rules does not provide for the specific circumstances of the pipeline it provides an indication of what operating costs can be expected in broad terms.

These generalised rules are set out in Table 15 below.

Table 15 Indicative Total Pipeline Expense (excluding compressor costs) as a Percentage of Asset Replacement Cost

Asset	Large	Average	Small
Pipeline	1.5%	2%	2.5%

Consistent with these benchmarks the Commission has previously stated that the pipeline operating cost should be in a range of 2% of replacement cost for uncompressed pipelines to 5% of replacement cost for fully compressed pipelines[4]. The Commission suggested ORC as a measure of the value of the capital assets employed.

While there are a number of broad factors that affect costs the primary cost driver is the length of the pipeline. Other secondary cost drivers are compressor stations and receipt and delivery stations. A pipeline's diameter has a minor secondary impact on operating costs.

Length, compressors, receipt stations, delivery stations and diameter are all reflected in a replacement value, such as ORC.

Pipeline throughput and capacity do not have a significant impact on operating costs. Measures that use these are generally invalid.

[4] ACCC (2001) Final Decision Access Arrangement proposed by Epic Energy South Australia Pty Ltd for the Moomba to Adelaide Pipeline System Date: 12 September 2001 p57 and p 203

The best indicators use either pipeline length or a replacement value, such as ORC. The non-capital cost benchmarks used in this Access Arrangement are:

- $ cost per km of route length and $ cost per km of pipeline length
- $ cost per $ ORC

The costs benchmarked below reference the RBP forecast non-capital cost figure used in this Access Arrangement[5].

6.3 Comparator Pipelines

The following pipelines were used as comparators given the availability of regulatory decisions on the efficient non-capital costs of those pipelines.

- Gasnet / Vencorp
- Moomba-Adelaide Pipeline
- Dampier-Bunbury Natural Gas Pipeline
- Goldfields Gas Transmission
- Moomba Sydney Pipeline

6.4 Key findings

Generally RBP non-capital cost levels are in line with industry standard.

6.4.1 Non-Capital cost per km of pipeline route and pipeline in situ

For most pipelines the length of the pipeline route and the length of the pipes in situ are identical. However for looped pipelines they are not identical.

Using both measures generates a range. These measures recognise that the RPB pipeline loops share some common costs (eg easement patrols) but that some costs are specific to the pipe in situ.

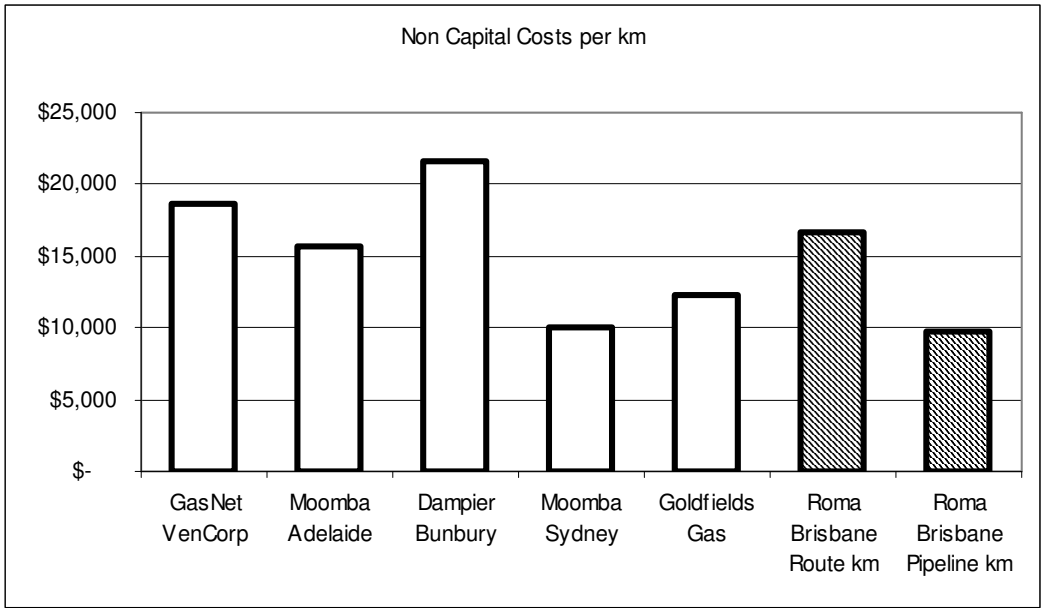
For non-capital cost per kilometre of pipeline route the RBP performs moderately relative to other pipelines due to the non-capital cost measure reflecting items that are genuinely required to be incurred twice, give the pipeline's actual configuration.

For example, cathodic protection cost must be carried for each loop. Also, while the loops share an easement for much of the distance between Roma and Brisbane, it is not the case that the two loops share an easement for the entire distance.

For non-capital cost per kilometre of pipeline in situ the RBP compares favourably relative to other pipelines. This is expected as costs that are only incurred once are spread over a longer pipeline length.

[5] To allow meaningful comparisons the performance measures in this Section 6 of the Access Arrangement Information reflect non-capital costs as reflected in various regulatory decisions, these costs may not be completely comparable due to differing treatments of corporate costs.

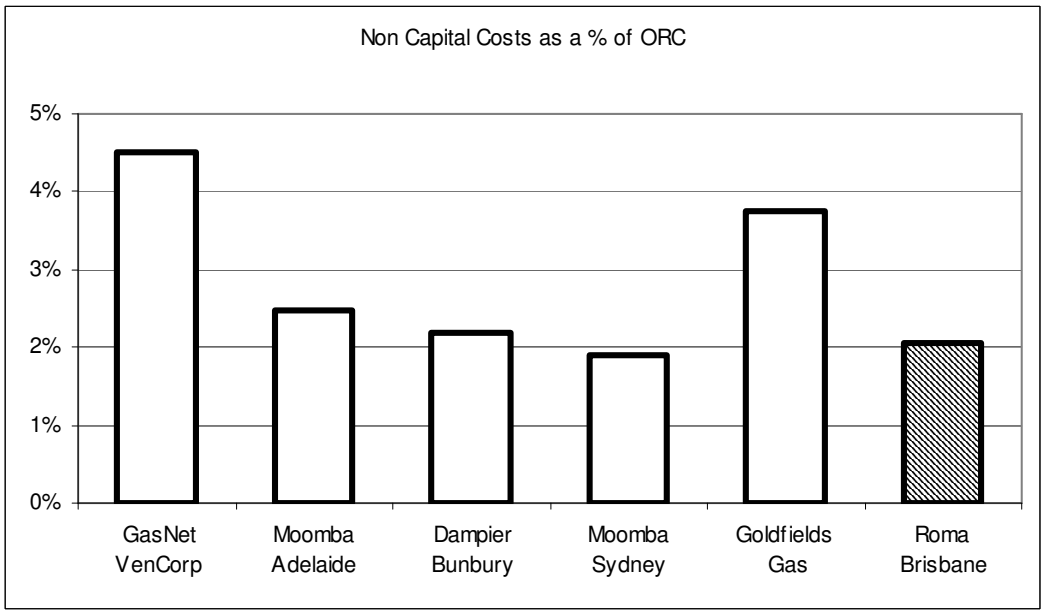
Chart 1



6.4.2 Non capital cost as a percentage of Optimised Replacement Cost

The RBP non-capital cost is approximately 2% of ORC. This is lower than the level previously accepted by the Commission as efficient for a fully compressed pipeline.

Chart 2



ATTACHMENT 1

CATEGORIES OF INFORMATION TO BE DISCLOSED AS PART OF THE ACCESS ARRANGEMENT INFORMATION

Category in Access Code	**Reference in Access Arrangement Information**
Category 1: Information regarding Access & Pricing Principles.	
Tariff determination methodology.	**2.2, 2.3, 2.4**
Cost Allocation approach	**2.3**
Incentive structure.	**2.4**
Category 2: Information regarding Capital Costs	
Asset values for each pricing zone, service or category of asset.	**3.1**
Information as to asset valuation methodologies – historical cost or asset valuation.	**3.1**
Assumptions on life of asset for depreciation.	**3.3**
Depreciation.	**3.3**
Accumulated depreciation.	**3.3**
Committed capital works and capital investment.	**3.2**
Description of nature and justification for planned capital investment.	**3.2**
Rates of return – on equity and on debt.	**3.4**
Capital Structure – debt/equity split assumed.	**3.4**
Equity returns assumed – variables used in derivation.	**3.4**
Debt costs assumed – variables used in derivation.	**3.4**
Category 3: Information regarding Operations and Maintenance Costs	
Fixed versus variable costs.	**3.5**
Cost allocation between zones, services or categories of asset & between regulated and unregulated.	**2.3, 3.5**
Wages & Salaries – by pricing zone, service or asset category.	**3.5**
Cost of services by other including rental equipment.	**3.5**
Gas used in operations – unaccounted for gas to be separated from compressor fuel.	**3.5**
Materials and supply	**3.5**
Property Taxes	**3.5**

Category in Access Code	**Reference in Access Arrangement Information**
Category 4: Information on Overheads & Marketing Costs	
Total service provider costs at corporate level	**3.5**
Allocation of costs between regulated and unregulated segments.	**2.3, 3.5**
Allocation of costs between particular zones, services or categories of asset.	**2.3, 3.5**
Category 5: Information regarding System Capacity & Volume assumptions	
Description of system capabilities	**5**
Map of piping system – pipe sizes, distances and maximum delivery capability.	**ATTACHMENT 2**
Average daily and peak demand at "city gates" defined by volume and pressure.	**5.3**
Annual volume across each pricing zone, service or category of asset.	**4.1**
System load profile by month in each pricing zone, service or category of asset.	**5.5**
Total Number of customers in each pricing zone, service or category of asset.	**5.6**
Category 6: Information regarding Key Performance Indicators	
Industry KPIs used by the Service Provider to justify "reasonable incurred" costs.	**6.4**
Service provider's KPIs for each pricing zone, service or category of asset.	**6.4**

ATTACHMENT 2

MAP OF ROMA BRISBANE PIPELINE SYSTEM