



September 2016

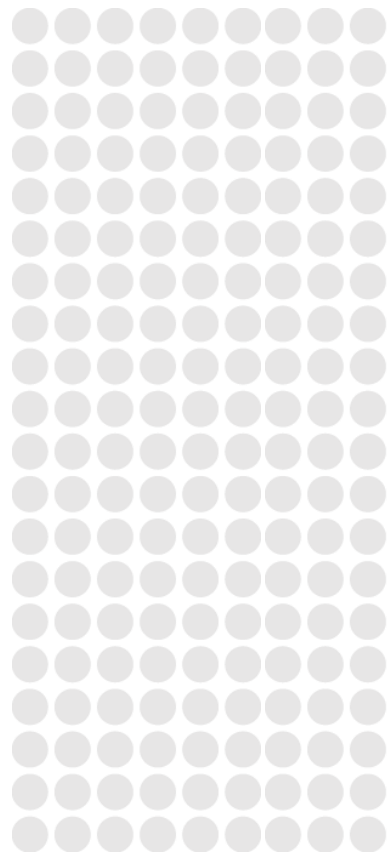
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access arrangement information.

Effective 1 July 2017 to 30 June 2022

APT Petroleum Pipelines Pty Limited

ACN 009 737 393



energy. connected.

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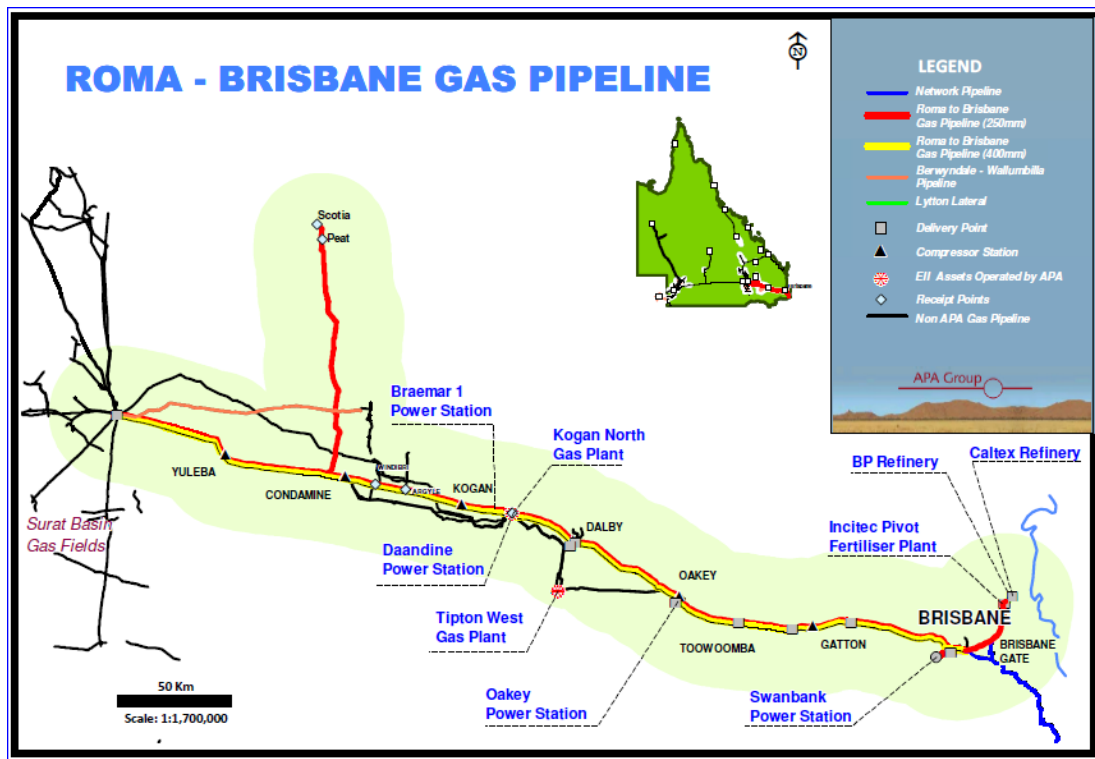


1 introduction

This Access Arrangement Information document has been prepared, in accordance with Rule 43(1) of the National Gas Rules (NGR), to provide Users and Prospective Users with sufficient information to understand the derivation of the Access Arrangement and its compliance with the NGR.

This Access Arrangement Information accompanies the APT Petroleum Pipelines Pty Limited (ACN 009 737 393) (APTPPL) access arrangement for the Roma to Brisbane Pipeline (RBP). The revised Access Arrangement commences on 1 July 2017.

Opened in 1969, the RBP is Australia's oldest natural gas pipeline. The RBP is a transmission Pipeline of 438 km in length and supplies major customers including Incitec Pivot, CS Energy's Swanbank E Power Station, BP's (now closed) Bulwer Island Refinery and energy retailers AGL and Origin Energy. Its capacity has been expanded a number of times and the capacity of the Pipeline is now more than five times its original size. The original Pipeline is fully looped (duplicated) with the exception of the Brisbane metro section (running from Ellengrove to Murarrie). Total RBP capacity is currently 232 terajoules (TJ)/day, or 80 petajoules (PJ)/year.



A more detailed description of the Pipeline, including a map, is available on APA Group's website at www.apa.com.au, which shows the general location and key points of the Pipeline.

1.1 Structure of this document

This document follows the structure of Rule 72¹ setting out the requirements for content of the Access Arrangement Information for a full Access Arrangement proposal.

APTPL's Access Arrangement proposal commences at the end of an earlier Access Arrangement Period, and therefore contains information relevant to the earlier Access Arrangement Period (in this case spanning from 1 September 2012 to 30 June 2017) as required under the NGR. This information is included in Part 2 of the Access Arrangement Information. The remaining parts of this Access Arrangement Information are as follows:

¹ All references to Rules or a particular Rule in this document refer to the National Gas Rules, or part thereof, unless an alternative meaning is expressly stated.

- Part 3 establishes the capital base for the Access Arrangement Period (in this case spanning 1 July 2017 to 30 June 2022), including forecast capital expenditure for the Access Arrangement Period;
- Part 4 discusses forecast utilisation for the Pipeline, including forecast customer numbers, reserved capacity and volumes used to derive tariffs;
- Part 5 outlines forecast operating expenditure for the Access Arrangement Period;
- Part 6 sets out key performance indicators for the Pipeline;
- Part 7 sets out the rate of return used in the Access Arrangement;
- Part 8 outlines the approach to taxation and how the tax asset base has been calculated;
- Parts 9 and 11 discuss historical and proposed incentive mechanisms;
- Part 10 describes the Reference Services, approach to tariff setting and reference tariff variation mechanism; and
- Part 12 sets out the total revenue requirement for the Pipeline for each year of the access arrangement.

While the previous Access Arrangement operated from 1 September 2012 to 30 June 2017, financial information in this document is presented on a fiscal year basis.

2 information relevant to the earlier access arrangement period

2.1 Capital expenditure

Capital expenditure by asset class over the earlier Access Arrangement Period² is set out in Table 2.1 below. These costs are based on actual costs for financial years 2012/13 to 2015/16, and forecast costs for financial year 2016/17.

Table 2.1: Capital expenditure by asset class over the earlier access arrangement period (\$m nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17F
Pipelines	2.84	3.34	10.40	0.61	0.89
Original Pipeline	0.48	3.36	6.54	5.66	14.08
Group IT	1.29	1.15	2.28	1.57	1.41
SIB Capex	1.02	2.55	3.77	1.89	0.92
Regulators and meters	-	-	-	-	-
Compressors	0.14	0.02	0.00	-	-
Other	-	-	-	-	-
Communications	-	-	-	-	-
Capitalised AA costs	0.07	-	-	0.06	0.91
Easements	0.03	0.01	0.00	0.07	-
PMA	-	-	-	-	-
Total Capex	5.88	10.43	22.98	9.87	18.22

² As required by Rule 72(1)(a)(i).



2.2 Operating expenditure

Operating expenditure by category over the earlier Access Arrangement Period³ is set out in Table 2.2 below. These costs are based on actual costs for financial years 2012/13 to 2015/16, and forecast costs for financial year 2016/17.

Table 2.2: Operating expenditure by category over the earlier Access Arrangement Period (\$m nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17F
Labour	5.0	5.0	5.3	6.8	7.0
Contractors	1.5	1.3	0.9	1.5	1.6
Other operating costs	1.3	1.9	1.6	0.9	0.9
Insurance, Licences and fees	0.8	0.8	1.0	0.6	0.6
Overheads/corporate costs	4.2	4.3	4.4	3.9	4.0
General	-	-	-	-	-
Management services fees	-	-	-	-	-
Treasury/financing costs	-	-	-	-	-
Total Opex	12.8	13.4	13.2	13.8	14.1

2.3 Pipeline usage

Pipeline minimum, maximum and average demand figures over the earlier Access Arrangement Period⁴ are set out in Table 2.3 below. These figures are based on actual demand for financial years 2012/13 to 2015/16.

³ As required by Rule 72(1)(a)(ii).

⁴ As required by Rule 72(1)(a)(iii)(A).

Table 2.3: Minimum, average and maximum demand by delivery point

Delivery point	Minimum, Maximum and Average Demand (GJ)	2012/13	2013/14	2014/15	2015/16
Braemar PS	MIN	-	-	-	-
	AVG	6,802	6,459	10,923	9,797
	MAX	29,610	36,000	51,620	47,448
Brightview	MIN	-	-	-	-
	AVG	0	-	-	-
	MAX	-	-	-	-
Bulwer Island	MIN	11,130	18,627	3,043	-
	AVG	28,146	25,844	24,151	393
	MAX	36,563	35,953	39,255	3,342
Dalby Bio Refinery	MIN	35	-	-	-
	AVG	1,153	317	768	1,117
	MAX	1,578	1,328	1,422	2,430
Dalby Town Council	MIN	75	68	75	83
	AVG	373	317	303	316
	MAX	918	1,492	725	1,099
Doboy	MIN	36			
	AVG	559			
	MAX	1,169			
Ellen Grove	MIN	4,761	5,590	6,163	6,798
	AVG	13,985	15,158	15,158	15,205
	MAX	20,788	21,366	21,683	21,848
Gibson Island	MIN	11,829	11,592	4,757	-
	AVG	36,805	35,486	33,169	33,183
	MAX	40,890	41,519	40,153	40,976
Lytton	MIN	97	36	-	906
	AVG	6,999	5,361	7,445	7,732
	MAX	13,907	12,814	13,658	15,168
Mt Gravatt	MIN	728	884	468	671
	AVG	1,383	1,489	1,383	1,556
	MAX	1,900	1,867	1,975	1,931
Murarrie	MIN	4,539	4,271	4,032	6,194
	AVG	12,031	11,825	12,953	13,132
	MAX	18,166	17,668	19,942	19,257
Oakey Allgas	MIN	25	17	15	12
	AVG	832	812	823	790
	MAX	1,448	1,416	1,423	1,472



Delivery point	Minimum, Maximum and Average Demand (GJ)	2012/13	2013/14	2014/15	2015/16
Oakey PS	MIN	-	-	-	-
	AVG	598	2,188	16,564	17,679
	MAX	12,718	28,985	78,960	80,912
Redbank	MIN	456	398	335	382
	AVG	888	769	758	801
	MAX	1,351	1,311	1,225	1,221
Ritchie Road	MIN	311	330	361	363
	AVG	817	691	667	672
	MAX	1,116	1,036	1,338	867
Riverview	MIN	12	49	18	25
	AVG	885	891	834	904
	MAX	2,592	1,842	1,896	1,820
Runcorn	MIN	-	-	-	-
	AVG	-	-	4	-
	MAX	-	-	1,545	-
Sandy Creek	MIN	-	-	-	-
	AVG	239	257	294	278
	MAX	641	508	543	553
Swanbank PS	MIN	-	-	-	-
	AVG	29,186	45,647	18,484	-
	MAX	52,879	61,830	60,404	-
Tingalpa	MIN	4,180	4,245	3,653	4,760
	AVG	6,101	6,668	6,768	6,997
	MAX	7,808	8,649	9,193	9,278
Toowoomba	MIN	662	650	665	698
	AVG	2,189	1,928	1,847	1,865
	MAX	3,922	3,584	3,347	3,750
Wallumbilla 3	MIN				-
	AVG				24,713
	MAX				126,623

Table 2.4: Minimum, Average and Maximum demand by receipt point

Receipt point	Minimum, Average and Maximum Demand (GJ)	2012/13	2013/14	2014/15	2015/16
Argyle	MIN	-	104	-	-
	AVG	66,538	65,595	62,893	38,712
	MAX	96,944	118,408	152,227	149,789
Condamine	MIN	-	-	-	-
	AVG	-	641	1,964	4,420
	MAX	-	9,915	24,902	32,662
Kogan North	MIN	-	5,437	-	-
	AVG	6,830	7,038	6,548	7,000
	MAX	11,612	11,932	11,037	11,665
Scotia	MIN	-	11,323	-	-
	AVG	23,675	27,489	28,600	23,865
	MAX	30,488	33,279	32,358	31,584
Wallumbilla entry	MIN	-	-	-	-
	AVG	29,050	18,630	26,921	27,820
	MAX	70,592	62,709	114,729	92,593
Windibri	MIN	-	-	-	-
	AVG	18,187	36,643	24,180	31,751
	MAX	50,003	70,101	67,902	98,928
Woodroyd	MIN	-	-	-	-
	AVG	7,359	7,774	3,345	3,710
	MAX	10,533	10,405	7,440	10,021

Pipeline customer numbers in total and by tariff class over the earlier Access Arrangement Period⁵ are set out in Table 2.4 below. These figures are based on actual customer numbers for financial years 2012/13 to 2015/16, and forecast customer numbers for financial year 2016/17.

Table 2.5: Customer numbers

	2012-13	2013-14	2014-15	2015-16	2016-17F
Customer numbers	10	10	10	9	9

⁵ As required by Rule 72(1)(a)(iii)(B).

3 the Capital Base

3.1 Opening Capital Base

3.1.1 Opening Capital Base for Access Arrangement Period

The Opening Capital Base for the Access Arrangement Period⁶ is shown in Table 3.1 below.

Table 3.1: Opening Capital Base for the Access Arrangement Period (\$m nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17F
opening capital base	417.67	418.82	425.35	436.68	434.87
plus net conforming capex	5.98	10.75	23.63	10.16	18.82
plus speculative capex					
plus reused redundant assets					
less depreciation	-15.27	-16.50	-17.96	-17.69	-16.82
plus indexation	10.44	12.27	5.66	5.72	8.70
adjustment for previous period					5.97
closing capital base	418.82	425.35	436.68	434.87	451.54

3.2 Projected Capital Base

The projected Capital Base for the Access Arrangement Period is made up of the following components:

- Opening Capital Base; plus
- Forecast conforming capital expenditure; less
- Forecast depreciation; less
- Forecast disposals.

⁶ As required by Rule 72(1)(b).

These components are described in the following sections, and the projected Capital Base is provided in section 3.2.5 below.

3.2.1 Forecast conforming capital expenditure for the Access Arrangement Period

Forecast conforming capital expenditure by asset class over the Access Arrangement Period⁷ is set out in Table 3.2 below.

Table 3.2: Forecast capital expenditure by asset class over the Access Arrangement Period (\$m 2016-17)

	2017-18	2108-19	2019-20	2020-21	2021-22
Original Pipeline (DN250)	15.82	11.59	4.90	4.67	6.23
Pipelines	7.03	2.55	0.86	2.44	0.45
Compressor	0.10	0.10	0.00	0.00	1.33
Regulators and meters	0.26	0.00	0.08	0.00	0.00
Easements	0.00	0.00	0.00	0.00	0.00
Communications	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00
Capitalised AA costs	0.07	0.00	0.00	0.06	0.91
Group IT	1.61	0.59	0.47	0.58	0.43
SIB Capex	1.03	1.08	0.53	0.55	0.30
Total	25.92	15.91	6.84	8.31	9.65

APTPL's capital expenditure forecast is derived based on purpose in categories as follows:

- Stay in Business capital expenditure – routine capital activities targeted at maintaining the Pipeline in good working order in the long term;
- Growth related capital expenditure – expenditure required to maintain capacity to meet current customer demand and to provide additional capacity to meet future customer demand.

⁷ As required by Rule 72(1)(c)(i).

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- Non-system capital expenditure is related to IT systems and software, motor vehicles, and plant and equipment which are not part of the Pipeline, but which are otherwise required to deliver Pipeline Services.

Forecast conforming capital expenditure by category over the Access Arrangement Period is shown in Table 3.3 below.

Table 3.3: Forecast conforming capital expenditure by category over the Access Arrangement Period (\$m 2016-17)

	2017-18	2108-19	2019-20	2020-21	2021-22
Expansion	-	-	-	-	-
Stay in Business	25.36	15.33	6.37	7.73	9.22
Non System	0.56	0.58	0.47	0.58	0.43
Total	25.92	15.91	6.84	8.31	9.65

3.2.3 Forecast depreciation

Forecast depreciation by asset class over the Access Arrangement Period⁸ is shown in Table 3.4 below.

Table 3.4: Forecast depreciation over the Access Arrangement Period (\$m 2016/17)

	2017-18	2108-19	2019-20	2020-21	2021-22
Original Pipeline (DN250)	1.86	2.13	2.33	2.41	2.49
Pipelines	4.86	4.95	4.99	5.00	5.03
Compressor	1.01	1.01	1.01	1.01	1.01
Regulators and meters	0.04	0.05	0.05	0.05	0.05
Easements	0.00	0.00	0.00	0.00	0.00
Communications	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00
Capitalised AA costs	0.33	0.34	0.34	0.34	0.24
Group IT	4.05	4.38	4.50	0.75	0.67
SIB Capex	0.34	0.55	0.78	0.88	1.00
PMA	2.65	2.65	2.65	0.00	0.00
Total	15.14	16.07	16.65	10.45	10.49

⁸ As required by Rule 72(1)(c)(ii).

Table 3.5 sets out APTPPL's asset economic lives.

Table 3.5: Asset remaining economic lives (years)

\$000	Standard life	Remaining life
Original Pipeline (DN250)	60	35.0
Pipelines	80	64.3
Compressor	35	31.1
Regulators and meters	40	30.7
Easements	n/a	n/a
Communications	15	n/a
Other	5	n/a
Capitalised AA costs	5	4.7
Group IT	5	3.0
SIB Capex	5	5.0
PMA	12	3.0

APTPL has applied a straight-line methodology in determining future depreciation.

3.2.5 Forecast disposals

Forecast disposals for the Access Arrangement Period are set out in Table 3.6 below.

Table 3.6: Forecast disposals over the Access Arrangement Period (\$m 2016/17)

	2017-18	2108-19	2019-20	2020-21	2021-22
Disposals	0	0	0	0	0

3.2.6 Forecast redundant assets

The forecast of assets that will be made redundant in the Access Arrangement Period is set out in Table 3.7 below.

Table 3.7: Forecast redundant assets over the Access Arrangement Period (\$m 2016/17)

	2017-18	2108-19	2019-20	2020-21	2021-22
Forecast redundant assets	0	0	0	0	0



3.2.8 **Projected Capital Base over the Access Arrangement Period**

The projected Capital Base for the Access Arrangement Period⁹ is shown in Table 3.8 below.

Table 3.8: *Projected Capital Base for the Access Arrangement Period (\$m nominal)*

	2017-18	2108-19	2019-20	2020-21	2021-22
Opening capital base	451.54	472.26	481.97	483.75	493.75
plus indexation	9.03	9.45	12.05	12.09	12.34
plus forecast capex	27.13	16.98	7.49	9.32	11.09
less forecast depreciation	15.45	16.72	17.75	11.42	11.76
less forecast disposals	0.00	0.00	0.00	0.00	0.00
less forecast redundant assets	0.00	0.00	0.00	0.00	0.00
Closing capital base	472.26	481.97	483.75	493.75	505.43

⁹ As required by Rule 72(1)(c).

4 forecast network demand and utilisation

4.1 Forecast customer numbers and volumes

Forecast customer numbers and volumes by customer class for the access arrangement period are set out in Table 4.1 below.

Table 4.1: Forecast customer numbers and volumes by customer class over the Access Arrangement Period

	2017-18	2108-19	2019-20	2020-21	2021-22
Total	8	8	8	8	8

4.2 Forecast network capacity and utilisation

Forecast network capacity and utilisation for the Access Arrangement Period¹⁰ is shown in Table 4.2 below. Pipeline capacity reported is for deliveries upstream of the brisbane Metro section. The pipeline capacity for deliveries within the Brisbane Metro section is 110 TJ/day

Table 4.2: Forecast network capacity and utilisation for the Access Arrangement Period

	2017-18	2108-19	2019-20	2020-21	2021-22
Pipeline capacity - Eastbound	207	207	207	207	207
Peak utilisation	67%	75%	77%	75%	78%
Average utilisation	44%	45%	45%	45%	45%
Pipeline Capacity - Westbound	120	120	120	120	120
Peak utilisation	100%	100%	100%	100%	100%
Average utilisation	40%	40%	40%	40%	40%

¹⁰ As required by Rule 72(1)(d).



4.3 Forecast demand

Forecast maximum and average demand for the Pipeline over the Access Arrangement Period is shown in Table 4.3 below.

Table 4.3: Forecast maximum and average demand for the Pipeline over the Access Arrangement Period (TJ/d)

	2017-18	2108-19	2019-20	2020-21	2021-22
Eastbound					
Maximum demand	139.3	154.9	159.3	156.0	160.5
Average demand	90.3	92.6	93.4	93.3	93.9
Westbound					
Maximum demand	120	120	120	120	120
Average demand	48	48	48	48	48

5 forecast operating expenditure

Forecast operating expenditure by category over the Access Arrangement Period is set out in Table 5.1 below.

Table 5.1: Forecast operating expenditure by category over the Access Arrangement Period (\$m 2016-17)

\$	2017-18	2108-19	2019-20	2020-21	2021-22
Labour	7.06	7.06	7.01	6.98	6.98
Contractors	1.58	1.58	1.57	1.57	1.57
Insurance, Licences and Fees	0.92	0.92	0.91	0.91	0.91
Other operating costs	0.63	0.63	0.63	0.62	0.62
Corporate costs	4.07	4.07	4.04	4.02	4.02
Debt raising costs	0.25	0.26	0.26	0.25	0.25
Forecast operating expenditure	14.51	14.51	14.41	14.36	14.35

APTPL's forecast of operating expenditure for the Access Arrangement Period has been prepared using the base year methodology. This methodology involves the following steps:

- Selection of an appropriate base year in which to measure costs;
- Modification of the base year costs to ensure that all costs required for future operation of the Pipeline are added to the base year costs, and all costs in the base year costs which are not relevant to future operation of the Pipeline are subtracted from the base year costs;
- Modification of base year costs as required to reflect changed consumer numbers, additional Pipeline facilities required to supply gas to these additional consumers, and increased loads from existing consumers;
- Modification of the base year costs to reflect changes in input costs anticipated over the Access Arrangement Period; and



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- Modification of the base year costs to reflect appropriate productivity improvements.



6 key performance indicators

Key performance indicators for the Access Arrangement Period¹¹ are shown in Table 6.1 below.

Table 6.1: Key performance indicators (\$2016–17)

\$	2017-18	2108-19	2019-20	2020-21	2021-22
Opex per pipeline km	14,854	14,854	14,751	14,700	14,690
Opex per mmkm	46	46	45	45	45

¹¹ As required by Rule 72(1)(f).

7 rate of return

The return on the projected capital base included in the total revenue is determined as the product of a rate of return and the projected capital base at the beginning of each regulatory year of an access arrangement period.

The rate of return – the allowed rate of return of rule 87 of the NGR – is a nominal vanilla weighted average of an estimate of the return on equity and an estimate of the return on debt.

7.1 Gearing

In the nominal vanilla weighted average, the weight assigned to the estimate of the return on equity in the rate of return is 40%, and the weight assigned to the estimate of the return on debt is 60%.

7.2 Risk free rate of return

A risk free rate has been estimated as the average of yields on Australian Government securities with terms to maturity of 10 years over the period of 20 consecutive business days ending 29 July 2016.

The estimate of the risk free rate of return is 1.94%.

7.3 Return on equity

The Sharpe-Lintner Capital Asset Pricing Model (SL CAPM), the foundation model of the AER's Rate of Return Guideline, has been used to estimate the return on equity.

The SL CAPM represents the expected return, $E(r_j)$, on a particular financial asset j , as:

$$E(r_j) = r_f + \beta_j \times [E(r_M) - r_f]$$

where r_f is the risk free rate of return; β_j is the beta for asset j , and $E(r_M)$ is the expected return on the market portfolio of assets.

APTPL has departed from the Rate of Return Guideline when using the SL CAPM to estimate the return on equity.

At the time the SL CAPM is applied, estimates are made of:

- the rate of return on the risk free asset assumed to be available to investors at that time (the risk free rate); and
- the return those investors expect, at that time, to earn on the market portfolio.

The difference between the estimate of the return on the market portfolio and the estimate of the risk free rate is the estimate of the term $[E(r_M) - r_f]$ in the SL CAPM. This is not the approach of the Rate of Return Guideline, which proposes that the term $[E(r_M) - r_f]$ be estimated as a single parameter. Estimation of the term $[E(r_M) - r_f]$ as a single parameter is inconsistent with the economic principles from which SL CAPM is derived.

APTPL has estimated the return on equity using the SL CAPM, with the following estimates for the parameters of the model:

- risk free rate: $r_f = 1.94\%$;
- equity beta: $\beta_j = 0.8$; and
- $E(r_M)$: 10.0% .

The estimated rate of return on equity is 8.4% .

7.4 Return on debt

APTPL has departed from the AER's Rate of Return Guideline when estimating the return on debt. The Rate of Return Guideline proposes that the rate of return on debt be estimated as a prospective and progressively implemented trailing average.

APTPL has estimated the rate of return as a simple historical trailing average of estimates of return on debt for each of the last 10 years.

The benchmark efficient entity of rule 87(3) is not a regulated entity which would have hedged its debt in a particular way in response to the prevailing regulatory regime as the Rate of Return Guideline proposes. The benchmark efficient entity is a firm of similar scale to APTPL which operates in a



workably competitive market. Such a firm would be expected to issue debt with a term to maturity of 10 years, and to stagger its debt issues to minimise refinancing risk, in the way the Rate of Return Guideline proposes, without any need for concern about hedging arrangements which have to be “unwound”. The trailing average approach to estimation of the return on debt can be implemented immediately (without any need for a period of transition).

Reserve Bank of Australia data for the yields on the bonds of Australian non-financial corporations rated BBB have been used to estimate terms of the trailing average.

Where necessary, the data have been extrapolated or interpolated in the way proposed by the AER so that the estimates of the return on debt obtained (and which are the terms of the trailing average) are for terms to maturity of 10 years consistent with the assumption made in respect of the financing of the benchmark efficient entity.

The last, and most recent, term in the trailing average is an estimate of the return on debt made for an averaging period of 20 business days ending 29 July 2016. The earlier terms of the average have been calculated using data for averaging periods which were at intervals of multiples of twelve months prior to the averaging period of the last and most recent term.

Using Reserve Bank of Australia data for an averaging period of 20 business days ending 29 July 2016, and for prior averaging periods in July in each of the previous nine years, an estimate of the return on debt for the benchmark efficient entity is 7.3%.

7.5 Allowed rate of return

The allowed rate of return used in calculating the revised reference tariff of the RBP Access Arrangement is a weighted average of the estimated return on equity of 8.4%, and the estimated return on debt of 7.3%. The weightings assigned to the estimates of the return on equity and the return on debt are, respectively, 40% and 60%. The allowed rate of return is 7.7%.

7.6 Annual updating

Rule 87(9)(b) permits the return on debt to be estimated using a method which results in that return, and the allowed rate of return, being different for different regulatory years in the access arrangement period.

APTPL intends that the estimate of the return on debt be updated annually during the access arrangement period. This is to be done, for each year of the access arrangement period, by deleting the earliest term from the historical trailing average, and adding a new term calculated for the current year. The equal weighting of the terms is to be retained in the updating process.

If the return on debt is updated annually, then the total revenue is to be changed through the automatic application of the formula that is specified in the decision on the proposed revisions to the RBP Access Arrangement.¹²

7.7 Value of imputation credits

APTPL has estimated gamma as the product of the distribution rate and theta, as proposed in the Explanatory Statement to the AER's Rate of Return Guideline.

For the distribution rate, APTPL has used an estimate of 0.7, which has been made from Australian Taxation Office data for all equity, and which has previously been regarded as an estimate arrived at on a reasonable basis, and as representing the best estimate possible in the circumstances. It was the estimate proposed in the Rate of Return Guideline.

APTPL has departed from the Rate of Return Guideline when estimating the theta. The Rate of Return Guideline proposed an estimate of 0.7.

For theta, APTPL has used the estimate from an implied market value study: the estimate of 0.35 from the updated SFG study which was before the Australian Competition Tribunal in February 2016.¹³

¹² NGR, Rule 87(12).

¹³ *Applications by Public Interest Advocacy Centre Ltd and Ausgrid Distribution* [2016] ACompT 1.



APTPL has, therefore, used an estimate of 0.25 ($= 0.7 \times 0.35$) for gamma in calculating revised reference tariffs for the RBP Access Arrangement.

8 taxation

APTPL has adopted a post tax approach. Under this approach, the cash flows of the business include an estimate of the amount of tax payable on regulatory revenues.

APTPL has rolled forward its TAB using the same principles as the normal asset base rollforward. That is, APTPL has adopted the opening TAB in the earlier access arrangement period, and rolled it forward using actual capital expenditure. As the TAB is not indexed, it was not necessary to update the rollforward for outturn CPI increases. The TAB rollforward is shown in Table 8.1 and Table 8.2.

Table 8.1: Tax Asset Base as at 30 June 2017 (\$m nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17F
Opening TAB	134.78	124.11	122.17	131.89	128.77
Net additions	5.77	10.36	22.95	9.87	18.22
Tax depreciation	-16.44	-12.30	-13.23	-12.99	-12.42
Closing TAB	124.11	122.17	131.89	128.77	134.57

Table 8.2: Forecast Tax Asset Base (\$m nominal)

\$000	2017-18	2108-19	2019-20	2020-21	2021-22
Opening TAB	134.57	148.13	150.07	141.70	137.69
Net additions	26.44	16.55	7.30	9.08	10.81
Tax depreciation	-12.88	-14.61	-15.68	-13.09	-13.36
Closing TAB	148.13	150.07	141.70	137.69	135.14

The TAB is then applied to determine the corporate income tax allowance derived from the AER's Post Tax Revenue Model, as indicated in Table 8.3. This calculation of corporate income tax reflects a value for tax imputation credits, gamma, of 0.25.



Table 8.3: Corporate income tax allowance (\$m nominal)

	2017-18	2108-19	2019-20	2020-21	2021-22
Tax allowance	2.53	2.48	1.81	0.72	0.77



9 historical incentive mechanism

There was no incentive mechanism operative in the earlier access arrangement period giving rise to increments or decrements that need to be included in the revenue requirement for the access arrangement period.¹⁴

¹⁴ As required by Rule 72(1)(i).

10 approach to tariff setting

10.1 Reference Services

There are two Reference Services offered on the RBP:

- a Long Term Firm Service for receipt, transport and delivery of Gas over a minimum three year annual contract term; and
- a Short Term Firm Service for receipt, transport and delivery of Gas over a contract term less than three years.

Consistent with existing contracts and customer enquiries, APTPPL considers this to be the Services likely to be sought by a significant portion of the market.

APTPPL also provides Negotiated Services.

10.2 Tariff structure

Both Reference Services have a one-part tariff, being a Capacity Charge (expressed as dollars per GJ of MDQ per Day).

10.3 Allocation of revenue to tariffs

Reference Tariffs are designed to recover the Total Revenue allocated to the combination of the Long Term Firm and Short Term Firm Reference Services based on derivation of a Long Term Firm equivalent demand for Short Term Firm Services.

This approach equalises revenue derived from the application of Reference Tariffs with the total Reference Service revenue requirement, assuming that assumptions regarding costs and demand hold.

The forecast revenue requirement for the Access Arrangement Period is shown in Table 10.1 below.

Table 10.1: Forecast revenue requirement for the Access Arrangement Period (\$m nominal)

	2017-18	2108-19	2019-20	2020-21	2021-22
Return on capital	34.84	36.44	37.19	37.33	38.10
Return of capital	6.41	7.27	5.70	-0.67	-0.59
plus operating and maintenance	14.84	15.19	15.43	15.72	16.08
plus revenue adjustments	1.73	0.00	0.00	0.00	0.00
plus net tax allowance	2.53	2.48	1.81	0.72	0.77
Building block revenue requirement	60.36	61.38	60.13	53.10	54.36

The net present value of the Reference Tariff revenue stream when discounted at the nominal vanilla WACC of 7.72% is \$233.97 million.

Table 10.2: Reference Tariff revenue stream (\$m nominal)

	2017-18	2108-19	2019-20	2020-21	2021-22
Smoothed revenue path	50.69	54.45	58.48	62.82	67.48

The net present value of the Reference Tariff revenue stream when discounted at the nominal vanilla WACC of 7.72% is \$233.97 million which is equal to the present value of the revenue requirement.

10.4 Reference Tariffs

Tariffs for Reference Services are set out in the Access Arrangement. Tariffs are published for 2017/18 (\$2016/17) and are exclusive of Goods and Services Tax (GST).

10.4.1 Reference tariff variation mechanism

Reference Tariffs are varied in later years of the Access Arrangement Period through the operation of the Reference Tariff variation mechanism, made up of:

- an Annual Scheduled Reference Tariff Adjustment Formula Mechanism - which applies in respect of each year during the Access Arrangement Period; and
- Cost Pass-through Reference Tariff Adjustment Mechanism - under which APTPPL may seek to vary one or more of the Reference Tariffs as a result of a Cost Pass-through Event/s.

10.4.2 Annual reference tariff adjustment formula mechanism

The annual tariff variation adjustment formula adjusts tariffs on each 1 July of the Access Arrangement Period as follows:

- The Capacity Tariff and Throughput Tariff for the Firm Service will be varied by consumer price index (CPI) and an X factor.

A symmetrical annual tariff variation adjustment formula adjusts the reference tariff on each 1 July of the access arrangement period in respect of changes to the Consumer Price Index (CPI) and to the return on debt.

These adjustments are intended to ensure an efficient tariff over the access arrangement period. Relevant values and formulae for the above parameters are set out in section 4.7 of the access arrangement.

10.4.3 Cost Pass-through Reference Tariff Adjustment Mechanism

A symmetrical cost pass through reference tariff variation mechanism is included in the access arrangement to allow the reference tariff to be adjusted to recover (or return) material incremental costs resulting from defined cost pass through events.

The cost pass through events defined in the access arrangement are:

- a carbon cost event;
- a regulatory change event;
- a service standard event;
- a tax change event;

roma to brisbane pipeline
access arrangement information.

- a terrorism event;
- an insurer credit risk event;
- an insurance cap event;
- a natural disaster event.

Part 4.7 of the access arrangement sets out the tariff variation process the materiality threshold for cost pass-through events.



11 proposed incentive mechanism

The access arrangement does not include an incentive mechanism of the type described under the Rules,¹⁵ however APTPL faces incentives to reduce costs and increase demand over the access arrangement period compared with the forecast on which the access arrangement is based, as total revenue will not be adjusted to reflect differences between forecast and actual gas demand and/or business costs.

¹⁵ See Rule 98.

12 total revenue

The total revenue requirement to be derived from pipeline services over the access arrangement period is shown in Table 12.1 below.

Table 12.1: Total revenue requirement (\$m nominal)

	2017-18	2108-19	2019-20	2020-21	2021-22
Return on capital	34.84	36.44	37.19	37.33	38.10
Return of capital	6.41	7.27	5.70	-0.67	-0.59
plus operating and maintenance	14.84	15.19	15.43	15.72	16.08
plus revenue adjustments	1.73	0.00	0.00	0.00	0.00
plus net tax allowance	2.53	2.48	1.81	0.72	0.77
Building block revenue requirement	60.36	61.38	60.13	53.10	54.36