# **APT Petroleum Pipelines Limited**

Access Arrangement Information

Effective

12 April 2012 – 30 June 2017

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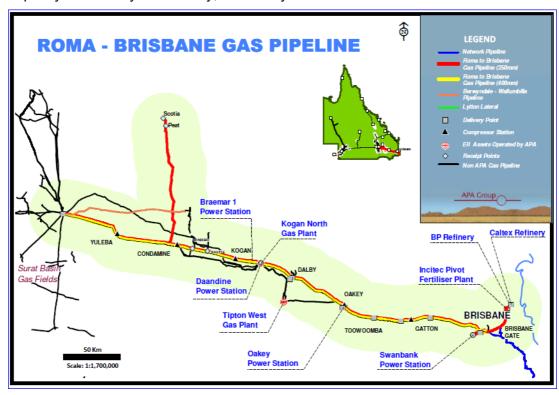
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#### 1 Introduction

This Access Arrangement Information (AAI) document has been prepared, in accordance with Rule 43(1) of the National Gas Rules 2008 (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 Limited (APTPPL) access arrangement for the Roma to Brisbane Pipeline (RBP). The revised access arrangement is expected to commence on 12 April 2012.

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 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 TJ/day, or 80 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 72<sup>1</sup> setting out the requirements for content of the access arrangement information for a full access arrangement proposal.

APTPPL'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 12 April 2007 to 11 April 2012) as required under the NGR. This information is included in Part 2 of the AAI. The remaining parts of this AAI are as follows:

- Part 3 establishes the capital base for the access arrangement period (in this case proposed to span 12 April 2012 to 30 June 2017), 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;
- O Part 5 outlines forecast operating expenditure for the access arrangement period;
- Part 6 sets out key performance indicators for the pipeline;
- O Part 7 sets out the rate of return used in the access arrangement;
- O Part 8 outlines the approach to taxation and how the tax asset base has been calculated:
- O 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 12 April 2007 to 11 April 2012, and the next AA commences 12 April 2012, financial information in this document is presented on a fiscal year basis.

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<sup>&</sup>lt;sup>1</sup> All references to Rules or a particular Rule in this document refer to the National Gas Rules 2008, or part thereof, unless an alternative meaning is expressly stated.

## 2 Information relevant to the earlier access arrangement period

## 2.1 Capital expenditure

Capital expenditure by asset class over the earlier access arrangement period<sup>2</sup> is set out in Table 2.1 below. These costs are based on actual costs for financial years 2006/07 to 2010/11, and forecast costs for financial year 2011/12.

Table 2.1 – Capital expenditure by asset class over the earlier access arrangement period

(\$m nominal)	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12F	Total
Stay in Business	2.57	32.65	2.72	4.13	2.58	3.75	48.41
Pipelines and compressors	0	0.15	0.34	6.86	7.47	45.95	60.77
Total Capex	2.57	32.80	3.06	10.99	10.06	49.71	109.19

## 2.2 Operating expenditure

Operating expenditure by category over the earlier access arrangement period<sup>3</sup> is set out in Table 2.2 below. These costs are based on actual costs for financial years 2006/07 to 2010/11, and forecast costs for financial year 2011/12.

<sup>&</sup>lt;sup>2</sup> As required by Rule 72(1)(a)(i)

<sup>&</sup>lt;sup>3</sup> As required by Rule 72(1)(a)(ii)

Table 2.2 – Operating expenditure by category over the earlier access arrangement period

(\$'000 nominal)	2006/074	2007/08	2008/09	2009/10	2010/11	2011/12F
Wages & Salaries	-	2,316	4,201	4,323	5,234	5,473
APT Other Corporate Costs	2,093	2,117	2,306	3,016	3,393	3,603
Operations and Maintenance, Insurance, License Fees and Security	7,601	3,320	2,393	2,317	5,575 <sup>5</sup>	2,789
Total	9,694	7,752	8,900	9,657	14,202	11,865

## 2.3 Pipeline usage

Pipeline minimum, maximum and average demand figures over the earlier access arrangement period<sup>6</sup> are set out in Table 2.3 below. These figures are based on actual demand for financial years 2006/07 to 2010/11, and forecast demand for financial year 2011/12.

Table 2.3 –Minimum, maximum and average demand over the earlier access arrangement period

TJ/day	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12F
Minimum	98.2	102.1	109.2	92.8	110.7	
Average	168.9	167.7	174.0	169.0	167.0	
Maximum	216.5	203.4	207.6	209.3	207.7	

Pipeline customer numbers in total and by tariff class over the earlier access arrangement period<sup>7</sup> are set out in Table 2.4 below. These figures are based on

<sup>&</sup>lt;sup>4</sup> APT Petroleum Pipelines Ltd Regulatory Accounting Statements

<sup>&</sup>lt;sup>5</sup> This increase is caused primarily by the damage to the RBP caused by the 2011 Queensland floods. See below for adjustment to base year costs.

<sup>&</sup>lt;sup>6</sup> As required by Rule 72(1)(a)(iii)(A)

<sup>&</sup>lt;sup>7</sup> As required by Rule 72(1)(a)(iii)(B)

actual customer numbers for financial years 2006/07 to 2010/11, and forecast customer numbers for financial year 2011/12.

Table 2.4 – Customer numbers

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12F
Total users	8	9	11	11	11	11

## 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 period<sup>8</sup> is shown in Table 3.1 below.

Table 3.1 – Opening capital base for the access arrangement period

\$m nominal	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Opening capital base	296.35	300.22	340.88	345.66	359.98	374.80
Plus capex	2.67	34.39	3.18	11.45	10.50	51.68
Plus speculative capex						
Plus reused redundant assets						
Less depreciation	-6.02	-6.46	-6.81	-7.12	-7.68	-8.15
Plus indexation	7.22	12.73	8.41	9.98	12.00	9.37
Less redundant assets						
Less disposals		0		0		
Closing capital base	300.22	340.88	345.66	359.98	374.80	427.70

## 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
- O Forecast conforming capital expenditure; less

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<sup>&</sup>lt;sup>8</sup> As required by Rule 72(1)(b)

- Forecast depreciation; less
- Forecast disposals.

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 period<sup>9</sup> is set out in Table 3.2 below.

Table 3.2 – Forecast capital expenditure by asset class over the access arrangement period

(\$m) 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
SIB Capex	3.99	4.46	3.33	3.54	2.98	18.31
Pipelines	0	0	0	0	0	0
Compressors	0	0	0	0	0	0

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

- O 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.

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 in shown in Table 3.3 below.

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<sup>&</sup>lt;sup>9</sup> As required by Rule 72(1)(c)(i)

Table 3.3 – Forecast conforming capital expenditure by category over the access arrangement period

(\$m) 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Expansion	0	0	0	0	0	0
Replacement	0	0	0	0	0	0
Stay In Business	3.99	4.46	3.33	3.54	2.98	18.31
System Total	3.99	4.46	3.33	3.54	2.98	18.31
Non System	0	0	0	0	0	0
Total	3.99	4.46	3.33	3.54	2.98	18.31

## 3.2.2 Forecast depreciation

Forecast depreciation by asset class over the access arrangement period<sup>10</sup> is shown in Table 3.4 below.

Table 3.4 – Forecast depreciation over the access arrangement period

\$m 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Depreciation	16.67	17.98	19.44	19.44	18.80	92.33

Table 3.5 sets out APTPPL's asset economic lives.

<sup>&</sup>lt;sup>10</sup> As required by Rule 72(1)(c)(ii)

Table 3.5 – Asset economic lives (years)

Asset Class	Standard life	Remaining life	Tax Statutory Life	Remaining tax life
Original Pipeline	60.00	17.00	20.00	n/a
Looping 1	80.00	56.00	20.00	n/a
Looping 2	80.00	58.00	20.00	n/a
Looping 3	80.00	66.00	20.00	6.00
Looping 4	80.00	69.00	20.00	9.00
Looping 5	80.00	71.00	20.00	11.01
Looping 6	80.00	71.00	20.00	11.14
Lateral	80.00	69.00	20.00	9.09
Dalby Compressor	35.00	5.00	20.00	9.50
Kogan Compressor	35.00	5.00	20.00	5.08
Oakey Compressor	35.00	6.00	20.00	6.13
Condamine Compressor	35.00	7.00	20.00	5.06
Yuleba Compressor	35.00	9.00	20.00	5.96
Gatton Compressor	35.00	10.00	20.00	3.73
Easements	1,000.00	957.00	20.00	n/a
Communications	15.00	4.00	n/a	n/a
Other	5.00	n/a	20.00	6.83
Capitalised AA costs	5.00	4.92	5.00	4.93
Pipelines / Laterals	80.00	78.12	20.00	18.31
Group IT	5.00	4.34	5.00	4.35
SIB Capex	5.00	3.47	5.00	3.52
PMA	12.00	8.00	5.00	1.00
Regulator and meter stations	40.00	35.69	20.00	15.74
Lytton lateral	80.00	79.00	20.00	19.00
RBP Expansion - Stage 8	35.00	35.00	20.00	20.00

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

## 3.2.3 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 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Disposals	0	0	0	0	0	0

#### 3.2.4 Forecast redundant assets

The forecast of assets that will be made redundant in the access arrangement period in set out in Table 3.7 below.

Table 3.7 – Forecast redundant assets over the access arrangement period

\$m 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Redundant Assets	0	0	0	0	0	0

### 3.2.5 Projected capital base over the access arrangement period

The projected capital base for the access arrangement period<sup>11</sup> is shown in Table 3.8 below.

Table 3.8 – Projected capital base for the access arrangement period

\$m nominal	2012/13	2013/14	2014/15	2015/16	2016/17
Opening capital base	427.70	426.47	424.52	419.92	415.54
Plus capex	4.24	4.86	3.72	4.06	3.51
Plus speculative capex					
Plus reused redundant assets					
Less depreciation	(16.67)	(17.98)	(19.44)	(19.44)	(18.80)
Plus indexation	11.21	11.17	11.12	11.00	10.89
Less redundant assets					
Less disposals					
Closing capital base	426.47	424.52	419.92	415.54	411.14

<sup>&</sup>lt;sup>11</sup> 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

	2012/13	2013/14	2014/15	2015/16	2016/17
Customers	10	10	10	10	9
Total Volume (TJ)	70,375	70,903	71,052	71,909	67,133

## 4.2 Forecast network capacity and utilisation

Forecast network capacity and utilisation for the access arrangement period<sup>12</sup> is shown in Table 4.2 below. Pipeline capacity has been calculated using aggregated contracted maximum daily quantities.

Table 4.2 – Forecast network capacity and utilisation for the access arrangement period

	2012/13	2013/14	2014/15	2015/16	2016/17
Forecast capacity (TJ/day)	232	232	232	232	232
Forecast utilisation (%)	100	100	100	100	93

#### 4.3 Forecast demand

Forecast maximum and average demand for the pipeline over the access arrangement period is shown in Table 4.3 below.

<sup>&</sup>lt;sup>12</sup> As required by Rule 72(1)(d)

Table 4.3 – Forecast maximum and average demand for the pipeline over the access arrangement period (TJ/d)

	2012/13	2013/14	2014/15	2015/16	2016/17
Maximum demand (TJ/day)					
Average demand (TJ/day)	193	194	195	197	184

## 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

\$000 (2011/12)	2012/13	2013/14	2014/15	2015/16	2016/17
Labour	5,819	6,002	6,190	6,483	7,008
Contractors – O&M	878	935	989	1,014	1,019
Other Operating Costs	1,137	1,211	1,282	1,394	1,320
Operating Costs	7,834	8,148	8,461	8,891	9,347
Asset Licences and Insurance	634	634	634	634	634
Regulatory Costs	-	-	-	-	767
Debt Raising Costs	248	241	233	225	217
Corporate Costs	3,732	3,851	3,990	4,277	4,564
Total Operating Expenditure	12,447	12,874	13,318	14,027	15,528

APTPPL's forecast of operating expenditure for the access arrangement period has been prepared using the base year methodology. This methodology involves the following steps:

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

## 6 Key performance indicators

Key performance indicators for the access arrangement period<sup>13</sup> are shown in Table 6.1 below.

Table 6.1 – Key Performance indicators (\$2010/11)

Indicator	Unit	2011/12	2012/13	2013/14	2014/15	2015/16
Total Operating Costs per km	\$/km	12,490	12,930	13,393	14,047	14,970
Total Operating Costs per mmkm	\$/mmkm	38.6	39.9	41.4	43.4	46.2

<sup>&</sup>lt;sup>13</sup> As required by Rule 72(1)(f)

#### Rate of return 7

APTPPL has calculated a nominal vanilla weighted average cost of capital (WACC). The formula in is used to derive the nominal vanilla WACC is set out below.

WACC = 
$$K_e \frac{E}{V} + K_d \frac{D}{V}$$

where:

$$K_e =$$
 the expected rate of return on equity or cost of equity

$$K_d =$$
 the expected rate of return on debt or cost of debt

$$\frac{E}{V}$$
 = the market value of equity as a proportion of the market value of equity and debt, which is  $1 - \frac{D}{V}$ 

$$\frac{1}{V}$$
 equity and debt, which is 1 –  $\frac{D}{V}$ 

$$\frac{D}{V}$$
 = the market value of debt as a proportion of the market value of equity and debt

The cost of equity,  $K_e$ , is calculated with the following formula:

$$K_e = R_f + \beta_e x MRP$$

where:

$$R_f$$
 = the nominal risk free rate of return

$$\beta_e$$
 = the equity beta

The cost of debt,  $K_d$ , is calculated with the following formula:

$$K_d = R_f + DRP$$

where:

$$R_f$$
 = the nominal risk-free rate of return

Table 7.1 below sets out proposed input parameters and the calculated rate of return used to derive APTPPL's revenue requirement for the access arrangement period<sup>14</sup>.

Table 7.1 – Proposed weighted average cost of capital for the access arrangement period

Parameter	Estimate
Risk free rate	4.25%
Forecast inflation	2.62%
Real risk free rate	1.59%
Gearing (debt to value)	60%
Debt risk margin	4.31%
Nominal pre-tax cost of debt	8.56%
Market risk premium	7.0%
Equity beta	1.0
Nominal post-tax cost of equity	11.25%
Gamma	0.25
Nominal post-tax WACC	9.63%

<sup>&</sup>lt;sup>14</sup> As required by Rule 72(1)(g)

## 8 Taxation

APTPPL is using a post tax framework to derive its revenue requirement for the access arrangement period. This has been calculated based on the Tax Asset Base (TAB) established by the ACCC in the last AA review.

The estimated cost of corporate income tax for each year of the access arrangement period (ETC<sub>t</sub>) is calculated in accordance with the following formula:

$$ETC_t = (ETI_t \times r_t) (1 - \gamma)$$

Where:

ETI<sub>t</sub> is an estimate of the taxable income for regulatory year t that would be earned by a benchmark efficient entity as a result of the provision of regulated services if such an entity, rather than the service provider, operated the business of the service provider, such estimate being determined in accordance with the AER's post-tax revenue model

r<sub>t</sub> is the expected statutory income tax rate for that regulatory year assumed to be 30 per cent

y (gamma, the assumed utilisation of imputation credits) is deemed to be 0.25

Asset class standard lives (in years) or the Australian Tax Office statutory cap used to prepare the APTPPL TAB are set out in Table 3.5 above.

APTPPL's tax asset base roll forward for the access arrangement period is shown in Table 8.1 below.

Table 8.1 – Tax asset base roll forward for the access arrangement period

\$m (nominal)	2012/13	2013/14	2014/15	2015/16	2011/12
Opening TAB	134.72	121.25	113.58	103.87	94.73
Capital expenditure	4.10	4.70	3.60	3.93	3.40
Tax depreciation	17.56	12.37	13.31	13.07	12.51
Total	121.25	113.58	103.87	94.73	85.62

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<sup>&</sup>lt;sup>15</sup> As required by Rule 72(1)(h)

#### Historical incentive mechanism 9

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. 16

<sup>&</sup>lt;sup>16</sup> As required by Rule 72(1)(i)

## 10 Approach to tariff setting

#### 10.1 Reference services

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.

APTPPL also provides negotiated services.

#### 10.2 Tariff structure

The Reference Service has a two-part tariff, being

- o a Capacity Charge (expressed as dollars per GJ of MDQ per Day); and
- o a 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.

#### 10.3 Allocation of revenue to tariffs

Reference tariffs are designed to recover the total revenue allocated to the Reference Service based on costs allocated to the Reference Service. 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 Reference Service revenue requirement for the access arrangement period

\$m (2012 real)	2012/13	2013/14	2014/15	2015/16	2016/17
Reference Service revenue requirement	53.06	55.28	55.89	55.14	54.61

The net present value of the reference tariff revenue stream when discounted at the real WACC of 6.84% is \$225.50 million.

Table 10.2 – Proposed Reference Tariff Revenue Stream

\$m (2012 real)	2012/13	2013/14	2014/15	2015/16	2016/17
Forecast Reference Service revenue	43.67	49.37	55.79	63.09	65.67

The net present value of the reference tariff revenue stream when discounted at the real WACC of 6.84% is \$225.50 million which is equal to the present value of the Reference Service revenue requirement.

#### 10.4 Reference Tariffs

Tariffs for reference services are set out in the access arrangement. Tariffs are published for 2012/13 (in \$2012/13) and are exclusive of goods and services tax (GST).

#### 10.4.1 Reference tariff adjustment

Reference Tariffs are varied in later years of the access arrangement period through the operation of the reference tariff adjustment 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.

#### 10.4.2 Annual reference tariff adjustment formula mechanism

The annual tariff variation adjustment formula adjusts the Capacity Tariff and the Throughput Tariff by CPI and an X factor on each 1 July of the access arrangement period as follows:

These adjustments are intended to ensure efficient tariffs over the access arrangement period. Relevant values and formulae for the above parameters are set out in section 4.5 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:

- o an Insurance cap event;
- o an Insurer credit risk event;
- o a Natural disaster event;
- a Regulatory change event;
- o a Service standard event;
- o a Tax change event;
- o a Terrorism event;

Part 4.5 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<sup>17</sup>, however APTPPL 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 deliveries and/or business costs.

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.

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 the gas access regime. This includes noncapital costs and stay in business capital.

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<sup>&</sup>lt;sup>17</sup> 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 to be derived from pipeline services over the access arrangement period

\$m 2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Return on capital	40.15	39.02	37.85	36.48	35.18
Regulatory depreciation	5.33	6.46	7.70	7.61	6.95
Tax allowance	2.02	3.76	3.79	3.73	3.60
Incentive mechanisms	0	0	0	0	0
Operating expenditure	12.45	12.87	13.32	14.03	15.53
Total revenue requirement	59.95	62.11	62.66	61.85	61.26