Final Decision

APT Petroleum Pipeline Pty Ltd
Access arrangement final decision
Roma to Brisbane Pipeline
2012–13 to 2016–17

August 2012

AUSTRALIAN ENERGY REGULATOR

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Shortened forms

Shortened form	Full title
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
APTPPL	APT Petroleum Pipelines Pty Limited (ACN 009 737 393)
access arrangement information	APT Petroleum Pipelines Pty Limited, Access arrangement information, 12 October 2011
access arrangement period	1 September 2012 to 30 June 2017
access arrangement proposal	APT Petroleum Pipelines Pty Limited, Access arrangement revision proposal, 12 October 2011
access arrangement submission	APT Petroleum Pipelines Pty Limited, Access arrangement revision proposal–submission, 12 October 2011
Capex	capital expenditure
earlier access arrangement	Access arrangement for the Roma to Brisbane Pipeline effective from 12 April 2007 to 11 April 2012 inclusive
earlier access arrangement period	12 April 2007 to 11 April 2012 inclusive
draft decision	AER, Draft decision, APT Petroleum Pipeline Pty Limited access arrangement proposal for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017, April 2012
DRP	debt risk premium
MRP	market risk premium
NGL	National Gas Law
NGR	National Gas Rules
revised access arrangement information	APT Petroleum Pipeline Pty Limited revised access arrangement information for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017, May 2012
revised access arrangement proposal	APT Petroleum Pipeline Pty Limited revised access arrangement proposal for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017, May 2012
revised access arrangement submission	APT Petroleum Pipeline Pty Limited revised access arrangement submission for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017, May 2012
Opex	operating expenditure
RBP	Roma to Brisbane Pipeline
WACC	Weighted average cost of capital

Background

The Australian Energy Regulator (AER) is responsible for the economic regulation of covered natural gas distribution and transmission pipelines in all states and territories except Western Australia. The AER's functions and powers are set out in the National Gas Law (NGL) and the National Gas Rules (NGR).

The Roma to Brisbane Pipeline (RBP) is both owned and operated by APT Petroleum Pipelines Pty Limited ACN 009 737 393 (APTPPL). The RBP is a covered gas transmission pipeline, in accordance with the NGL.

On 12 October 2011 APTPPL submitted its access arrangement proposal for the RBP. The AER released its draft decision on 30 April 2012. The NGR requires the AER to make an access arrangement final decision after considering the submissions made in response to the access arrangement draft decision. The AER must take into account submissions made within the time allowed in the notice and any other matters the AER considers relevant.[1] The access arrangement final decision must include a statement of the reasons for the decision.[2]

Rule 40 of the NGR sets out the AER's discretion in the decision making process for an access arrangement proposal. When the NGL and NGR do not state that the AER's discretion in relation to a particular decision is a 'limited' discretion, the AER can withhold its approval of an element of an access arrangement proposal under r. 40(3) of the NGR.[3] The AER can withhold its approval if, in the AER's opinion, a preferable alternative exists that complies with applicable requirements of the NGR and NGL, and is consistent with applicable criteria prescribed by the NGR and NGL. For example, the AER has a limited discretion in relation to tariff setting (r. 95), depreciation (r. 89), and operating expenditure (r. 91(2)).

The AER's consideration of the revised access arrangement proposal and accompanying revised access arrangement information is set out as follows:

- Part A is an overview of the final decision
- Part B comprises attachments which present the AER's analysis of the revised access arrangement proposal
- Part C comprises appendices which present further AER analysis of issues identified by the AER in the attachments.

The NGL provides that when performing or exercising an economic regulatory function or power, the AER must do so in a manner that will or is likely to contribute to the achievement of the national gas objective (NGO).[4] The NGO is:[5]

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1 NGR, r. 62(1).
2 NGR, r. 62(4).
3 An '*element of an access arrangement proposal*' is defined in r. 3 of the NGR as including a part or provision of the access arrangement proposal.
4 NGL, s. 28.
5 NGL, s. 23.

> ... to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

The AER must take into account the revenue and pricing principles when exercising its discretion in approving or making those parts of an access arrangement relating to a reference tariff. The AER may also take the revenue and pricing principles into consideration in its performance or exercise of any other AER economic regulatory function or power where it considers this appropriate.[6]

This is the first gas transmission decision made by the AER that will apply to the RBP. The Australian Competition and Consumer Commission (ACCC) made the previous decision, which applied for the period 12 April 2007 to 11 April 2012. The previous decision was the first full assessment by the ACCC of the access arrangement for the RBP under the National Third Party Access Code for Natural Gas Pipeline Systems (the Code).[7] This final decision is the first full assessment by the AER of the access arrangement for the RBP under the NGL and the NGR.[8]

In making this final decision, the AER has reviewed APTPPL's revised access arrangement proposal and submissions received in accordance with the process outlined in part 8 of the NGR. This process involved:

- pre-decision consultation—the AER consulted with APTPPL in developing the regulatory information notice (RIN) and regulatory templates. The purpose of the RIN was to obtain supporting information from APTPPL to help the AER assess the access arrangement proposal against the requirements of the NGR.

- APTPPL's access arrangement proposal—APTPPL submitted its access arrangement proposal and supporting documents to the AER on 12 October 2011.

- public consultation—the AER published APTPPL's access arrangement proposal and supporting documents on 16 November 2011 and called for submissions from interested parties. The AER held a public forum on APTPPL's access arrangement proposal in Brisbane on 30 November 2011. The AER received six submissions on APTPPL's regulatory proposal. The AER also held an industry workshop on APTPPL's proposed queuing requirements in Melbourne on 12 January 2012. The AER considered submissions on APTPPL's access arrangement proposal as part of the draft decision.

- the AER's draft decision—the AER published its draft decision on the RBP access arrangement proposal on 30 April 2012.

- APTPPL's revised access arrangement proposal—APTPPL submitted a revised access arrangement proposal and supporting documents on 25 May 2012. The AER published APTPPL's revised access arrangement proposal and supporting documents on 28 May 2012.

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6 NGL, s. 28. The revenue and pricing principles are set out in NGL, s. 24.

7 The earlier access arrangement for the RBP for the period 12 April 2007 to 11 April 2012 is a transitional access arrangement in accordance with schedule 1 of the NGR.

8 The transitional arrangements set out in clause 5 of schedule 1 of the NGR apply to the review of the RBP access arrangement proposal for the period 1 September 2012 to 30 June 2017.

- public consultation—the AER invited interested parties to make submissions on the draft decision and APTPPL's revised access arrangement proposal by 25 June 2012. The AER also held a public forum on APTPPL's access arrangement proposal in Brisbane on 17 May 2012. The AER received six submissions in response to the invitation for submissions. The AER also undertook additional consultation with APTPPL and RBP users on queuing requirements via teleconferences on 22 June 2012 and 10 July 2012. The AER circulated its proposed revisions to the RBP queuing requirements to APTPPL and pipeline users prior to making its final decision. The AER considered the submissions it received when in making its final decision.

- specialist advice—the AER engaged engineering, financial and economic experts to advise on key aspects of the access arrangement proposal. The AER considered this advice in making the final decision.

Summary

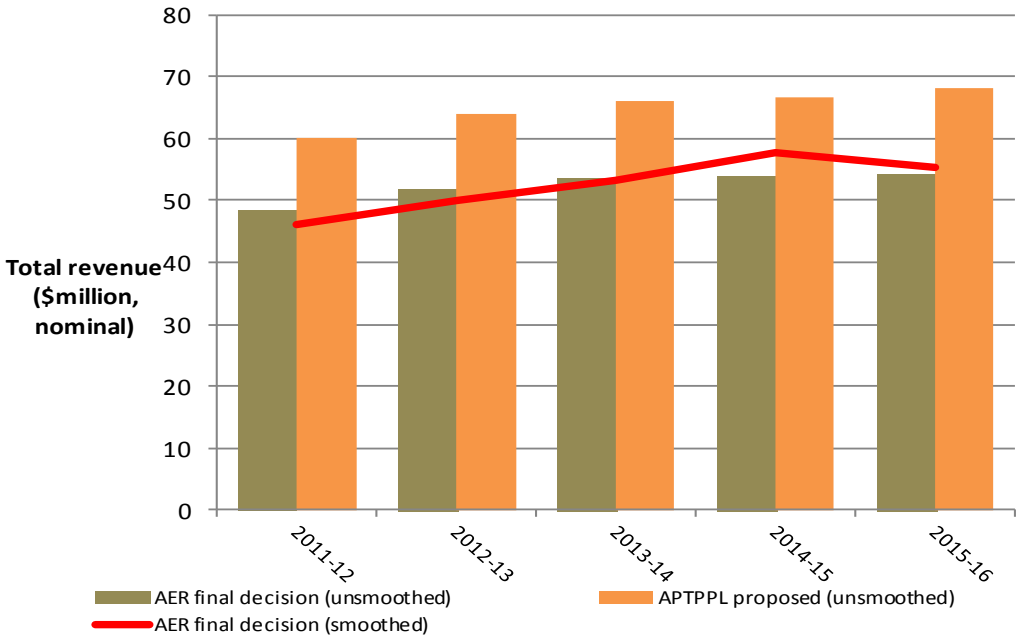
The NGL and NGR require the AER to make a final decision on APTPPL's revised access arrangement proposal. The NGL requires the AER to make decisions in a manner that will, or is likely to, contribute to the achievement of the NGO. The NGO promotes efficient investment in, and operation and use of, natural gas services for the long term interest of consumers.

The AER's final decision sets reference tariffs and terms and conditions for the transmission component of gas prices for users of the RBP. The final decision will affect the majority of gas users in the south-east Queensland region. The new access arrangement period will commence on 1 September 2012.

The AER's final decision and indicative price impacts

The AER's final decision is for total (smoothed) revenue of $262.7 million ($nominal) over the access arrangement period, as shown in figure S.1. This is based on a total unsmoothed revenue requirement of $261.9 million. The AER's smoothed revenue profile projects a slight decrease from 2015–16 to 2016–17. This is primarily caused by an expected fall in demand for capacity and throughput of approximately nine per cent in 2016-17. The AER has decided to adopt this revenue smoothing profile because it results in smoother tariff rates over the access arrangement period.

Figure S.1 AER final decision and APTPPL's revised proposed total revenue ($m, nominal)



Note: APTPPL revised proposal revenues have been adjusted to reflect the updates to the risk free rate and debt risk premium WACC parameters, based on the agreed averaging period.

APTPPL's revised access arrangement submission proposed total (unsmoothed) revenue of $325.3 million ($nominal) for the access arrangement period 12 April 2012 to 30 June

2017.[9,10] The AER recalculated APTPPL's unsmoothed revenue requirement to reflect the (updated) revised rate of return of 8.79 per cent (nominal vanilla), and based its comparisons on these revenues. The AER updated APTPPL's proposed rate of return based upon the risk free rate and debt risk premium (DRP) determined using the agreed averaging period. APTPPL's revised proposed unsmoothed revenue (with updated rate of return) represents an increase of around 90 per cent over approved revenue in the earlier access arrangement period.[11]

The AER accepts elements of APTPPL's revenue proposal as being consistent with the NGL and the NGR. However, the AER does not approve some elements, with significant impacts on approved revenues over the access arrangement period. The AER's adjustment of $63.4 million ($nominal) is 19.5 per cent below APTPPL's proposed total (unsmoothed) revenue of $325.3 million ($nominal). The AER's final decision is expected to result in a typical residential customer's bill increasing by approximately $1.36 per year over the access arrangement period.[12] This compares to a $3 per year increase had APTPPL's revised proposal been accepted. Figure S.2 shows the indicative price path for the RBP reference service as a result of this final decision.

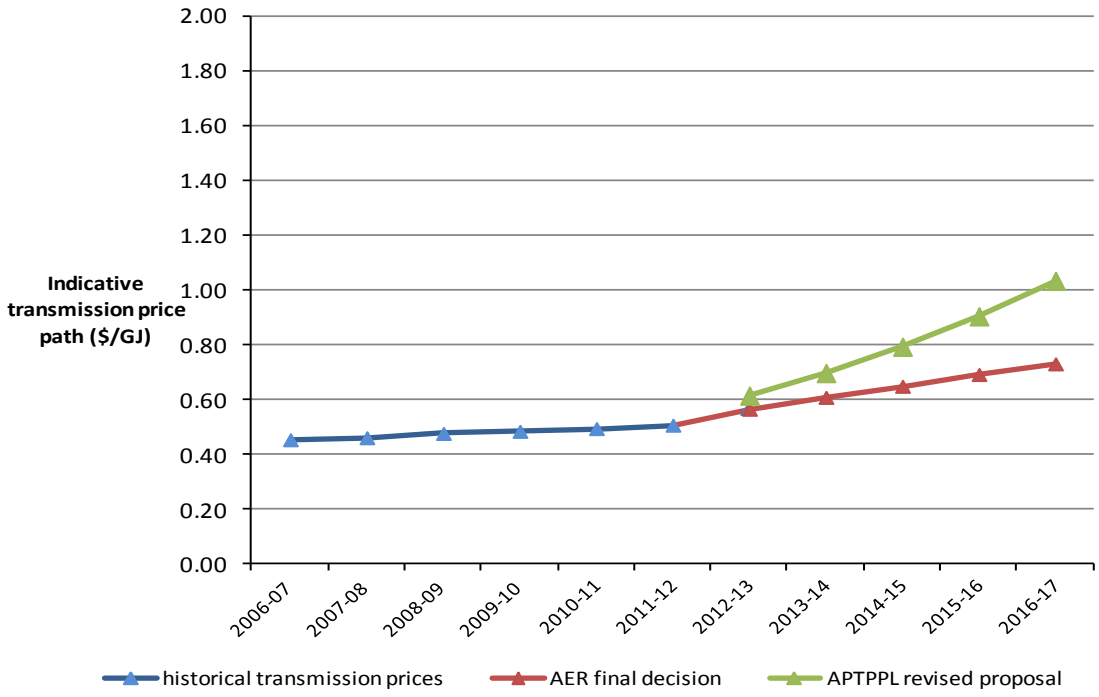
9 APTPPL, *Revised access arrangement submission for the Roma to Brisbane Pipeline 12 April 2012 - 30 June 2017*, May 2012, p. 54 (APTPPL, *Revised access arrangement submission*, May 2012).

10 APTPPL's revised proposed indicative rate of return has been updated to reflect the risk free rate and debt risk premium calculated based upon the agreed averaging period. APTPPL revised proposal revenues based on the (non-updated) revised proposed rate of return of 9.81 per cent were $349.4 million ($nominal) over the access arrangement period.

11 The current total (unsmoothed) revenue allowance for 1 July 2006 to 30 June 2011 is $170.9 million ($nominal). (2007 final RBP revenue model agreed between ACCC and APTPPL.).

12 Based on an average residential customer's gas bill of $505 (for details, see Total Revenue section of the Overview).

Figure S.2 Indicative reference tariff paths for the RBP reference service from 2012–13 to 2016–17 ($/GJ, nominal)



Source: AER analysis.

Differences between the AER's final decision and APTPPL's revised access arrangement proposal

In its draft decision, the AER did not approve a number of elements of APTPPL's access arrangement proposal, including the rate of return, capex and opex. These aspects of the draft decision were, in part, influenced by different approaches to pipeline capacity, forecasts capacity utilisation, and extension and expansion requirements.

In its revised proposal, APTPPL accepted a number of the AER's proposed amendments, including the AER's approach to identifying the covered pipeline at the start of the access arrangement period. APTPPL also agreed to the AER's proposed extension and expansion requirements, and commencement and review dates.

As a result, at the time of the final decision, there are fewer areas of disagreement between the AER and APTPPL.

The main drivers of the difference between the proposed total revenue in the AER's final decision and APTPPL's revised access arrangement proposal are the rate of return and operating expenditure (opex). The rate of return makes up most of this difference.

Rate of return

The rate of return is the most significant driver of the AER's lower total revenue allowance. The AER has determined a rate of return using a weighted average cost of capital (WACC). For the final decision, the AER approves a WACC of 7.31 per cent (nominal vanilla). APTPPL did not accept in full the AER's amendments to the WACC as set out in the draft decision. In its revised proposal APTPPL proposed an indicative WACC of 9.81 per cent, which included

an equity beta of 1.0 and market risk premium (MRP) of 8.5 per cent. This WACC was based on an indicative averaging period used to calculate the risk free rate and DRP. APTPPL agreed to an averaging period of 20 business days starting on the 25 June 2012 and ending on 20 July 2012. There was also agreement on the method to calculate the DRP. Updating the risk free rate and DRP with the market data from the agreed averaging period, APTPPL's revised proposal rate of return is 8.79 per cent. If the AER were to accept APTPPL's proposed WACC parameters for the equity beta and MRP, the final decision would have resulted in total revenue increasing by a further $39.7 million ($nominal) over the access arrangement period, as shown in table S.1. The AER has adopted an equity beta of 0.8 and an MRP of 6 per cent for this final decision.

Table S.1 Changes to AER's final decision in total over 5 years, if APTPPL's revised WACC parameters were adopted

	APTPPL's revised proposal	AER's final decision	Increased revenue ($m, nominal)	Increased revenue (per cent)
MRP	8.5%	6.0%	21.4	8.2%
Equity beta	1.00	0.80	12.9	4.9%
WACC	8.79%[a]	7.31%	39.7	15.1%

Source: AER analysis.
(a) APTPPL's revised proposed WACC of 9.81 per cent has been updated to reflect the agreed averaging period and parameters accepted in the draft decision. The WACC of 9.81 per cent in APTPPL's revised proposal was calculated using an indicative averaging period and hence differs from that in the table S.1.
(b) The difference in revenues attributable to MRP and beta as individual components does not equal the difference in revenues when these parameters are combined. This results from the cumulative effect of the combination of MRP and beta in the calculation of the WACC.

The AER recognises that the WACC approved for the decision is lower than past AER decisions. A historically low risk free rate has raised concerns amongst regulated businesses about the AER's approach to estimating the WACC. The AER has had regard to these concerns and the framework within which these decisions are required to be made. The AER considers that this WACC has been estimated using a robust and consistent approach. The WACC is also commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services as required by r. 87(1) of the NGR.

Operating expenditure

In its revised access arrangement submission, APTPPL proposed total opex of $79.5 million ($2011–12), in response to the AER's draft opex decision of $60.9 million ($2011–12). APTPPL's revised total opex proposal is higher than the $68.2 million ($2011–12) in its initial access arrangement proposal. This is driven by the addition of an annual opex allowance for carbon costs, substituted labour cost escalators, and additional compressor costs for the RBP8 expansion project. The AER's final decision is for total opex of $64.1 million ($2011–12) over the access arrangement period.

The AER's opex forecast differs from APTPPL's principally due to the AER not accepting APTPPL's labour cost escalator forecasts. The AER is not satisfied that APTPPL's proposed cost escalators are arrived at on a reasonable basis or represent the best possible estimate or forecast in the circumstances. If the AER were to approve APTPPL's opex forecast, the

final decision would have resulted in total revenue increasing by around $16.7 million ($nominal) over the forthcoming access arrangement period.

Other matters

Following APTPPL's revised proposal, the AER has made the following decisions in relation to a number of other issues including:

- **Capital base**—in its draft decision the AER did not approve any of the stay in business capital expenditure (capex) related to the Pipeline Management Agreement (PMA) contract buyout. In the final decision the AER accepts that a portion of the capex associated with the purchase of the PMA contract should be allowed. However, the AER considers that not all of the capex is conforming capex as required by the NGR. The AER has approved $24.8 million ($nominal) as conforming capex compared to the $30.1 million proposed by APTPPL.

- **Capacity utilisation**—in its revised proposal APTPPL forecast that not all of its capacity would be contracted in the access arrangement period. The AER has accepted that there is likely to be a small amount of unused capacity in the first few years of the access arrangement. Further, the AER has accepted that capacity of 17 TJ/day is likely to be unused in the final year of the access arrangement. The AER's final decision recognises that this capacity is only available at the western end of the pipeline.

- **Queuing requirements**—the AER's final decision accepts APTPPL's revised proposal to use a deposit mechanism for existing capacity and an open season for developable capacity. However, the AER considers that there are elements of APTPPL's revised queuing requirements which do not comply with the requirements and objectives of the NGL and NGR. The AER's alternative queuing requirements comply with the NGL and the NGR, and, in the AER's view, are more likely to promote efficient outcomes in accordance with the NGO and the revenue and pricing principles.

Part A: Overview

1 Total revenue

The RBP total revenue allowance is, in general terms, a forecast of the efficient cost of providing the RBP transmission pipeline reference service.

The AER's final decision on APTPPL's revised proposed total revenue takes into account each of the elements of APTPPL's revised access arrangement proposal and the AER's considerations of those elements. These elements are discussed in the remainder of the overview, as well as in the attachments of this final decision.

1.1 The building block approach

The AER's final decision on the total revenue and tariffs for the RBP over the access arrangement period has been made in accordance with the relevant sections of the NGL and NGR.

The AER used the building block approach to identify the costs that comprise APTPPL's total revenue. These costs are those that are expected to be incurred by an efficient service provider in the provision of pipeline reference services. The AER then used APTPPL's total revenue as the basis to calculate reference tariffs on the RBP.

Total revenue (total costs) under the building block approach are set out in r. 76 of the NGR and comprise of the following capital and non-capital costs relating to pipeline services:

- a return on the projected capital base[13]
- depreciation of the projected capital base
- corporate income tax if relevant[14]
- increments and decrements resulting from an incentive mechanism,[15] and
- forecast operating expenditure.

This is illustrated in figure 1.1.[16]

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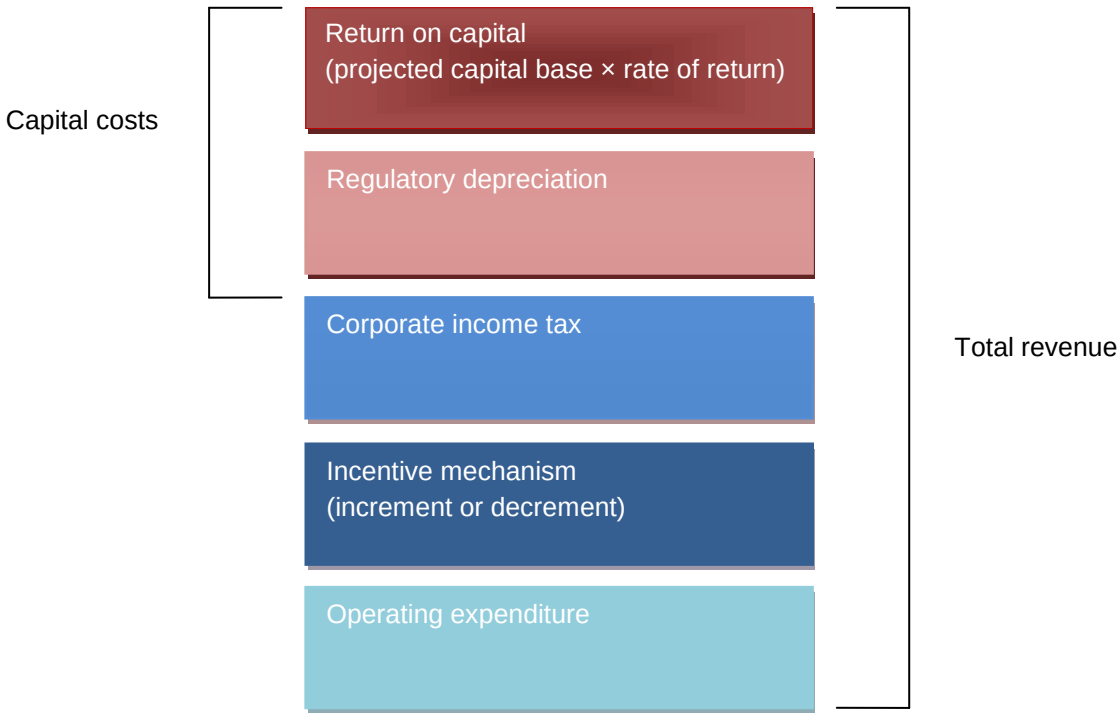
13 Includes any forecast capital expenditure.

14 This will be included as a building block revenue component in the estimate of corporate income tax payable under the post-tax framework or in the return on the capital under the pre-tax framework. The AER employs the post-tax framework.

15 This may relate to operating expenditure and/or capital expenditure depending on the incentive mechanism. The RBP access arrangement does not include an incentive mechanism so this component was not relevant to the AER's final decision.

16 AER, *Access arrangement guidelines*, March 2009, p. 55.

Figure 1.1 Building block approach



The AER's final decision on the total revenue is discussed below. Each of the building block components considered by the AER is discussed as follows:

- Capital base – overview section 4, attachment 1 and appendix C
- Rate of return – overview section 5, attachment 2 and appendix B
- Opex – overview section 6, attachment 3 and confidential appendix E
- Regulatory depreciation – overview section 7 and attachment 4
- Corporate income tax – overview section 8 and attachment 5.

Once the total revenue is determined, revenue is allocated to reference and other pipeline services. The tariffs for the pipeline services are determined by reference to the recovery of the total costs (total revenue) of providing those services. Other factors considered by the AER in reaching its final decision are discussed as follows:

- Capacity utilisation forecasts – overview section 9, attachment 6 and confidential appendix D
- Tariff setting – section 10 and attachment 7
- Tariff variation mechanism – section 11 and attachment 8.

The AER's consideration of the access arrangement's non–tariff components is set out in section 12, attachments 9 and 10, and appendix A.

APTPPL did not propose a specific incentive mechanism to apply to the RBP in respect of capital or operating expenditures for the access arrangement period. Therefore there is no discussion of this matter in the final decision.

1.2 Final decision

The AER's final decision on the total (smoothed) expected revenue derived from all reference services offered on the RBP is $262.7 million ($nominal). This is based on a total unsmoothed revenue requirement of $261.9 million.

This (unsmoothed) revenue requirement is 19.5 per cent lower than APTPPL's revised proposed revenue, based on APTPPL's (updated) revised proposed WACC, over the access arrangement period. The AER accepts several aspects of APTPPL's revised access arrangement proposal as consistent with the requirements of the NGR. However, the AER has not approved all elements. The key elements of the AER's final decision which reduce APTPPL's revised proposed revenues are:

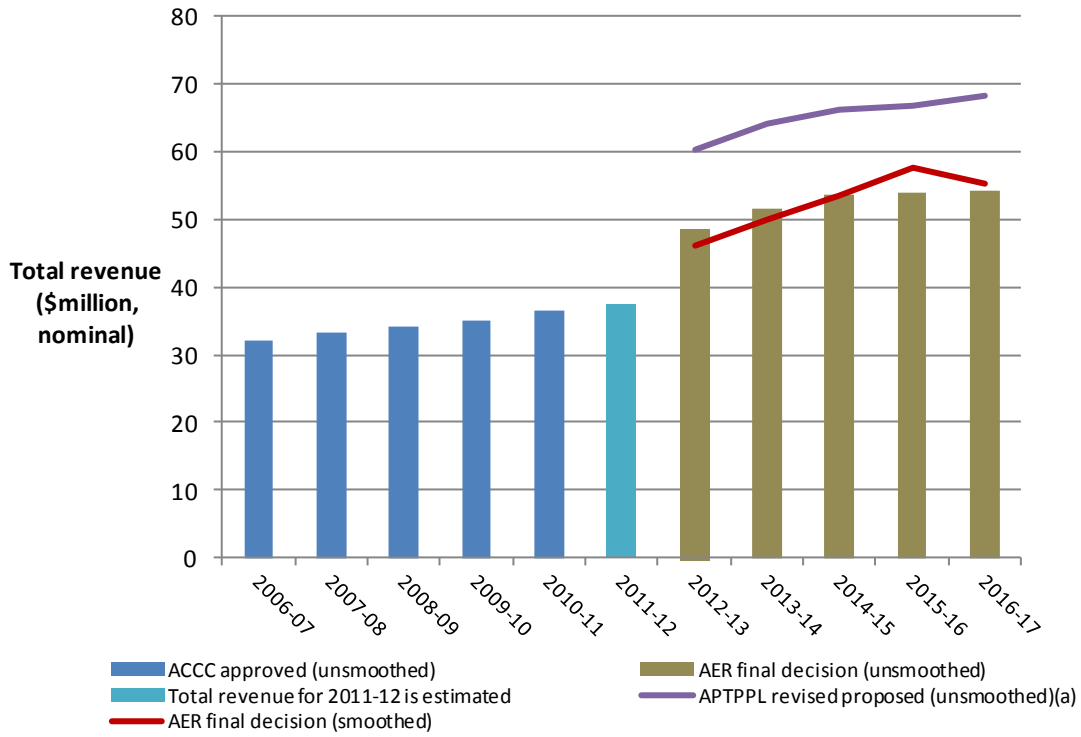
- the AER's final decision WACC is lower than APTPPL's (updated) revised proposed WACC. This is primarily due to adopting lower parameter values in relation to the MRP and equity beta. The AER's approved WACC reduces APTPPL's revised proposed revenue (with updated WACC) by $39.7 million ($nominal) or 15.1 per cent over the access arrangement period.

- the AER identified issues with APTPPL's opex forecasts for labour and contractor cost escalation, capacity expansions, and corporate costs, reducing APTPPL's opex allowance from $79.5 million ($nominal) to $64.1 million.

- the AER approved an amount of $24.8 million in capex (compared to $30.1 million sought by APTPPL) in 2007–08 ($nominal) associated with the Agility PMA contract buyout. The PMA contract buyout internalised the RBP construction, management and services functions through the acquisition by the APA Group (APA) of Agility's asset management business. The AER's decision to approve an amount of $24.8 million in the opening capital base in 2007–08 reduces APTPPL's revised proposed revenue by $7.4 million ($nominal) or 2.7 per cent over the access arrangement period.

Figure 1.2 compares APTPPL's revised proposal and the revenue approved by the ACCC over the earlier access arrangement period. APTPPL's revised proposed revenues (with updated WACC) for the access arrangement period are 90 per cent ($nominal) higher than the ACCC allowed revenues for the earlier access arrangement period.

Figure 1.2 AER's final decision compared to APTPPL's revised proposed revenue requirement ($million, nominal)



Source: APTPPL's PTRM, submitted May 2012; AER analysis.
(a): APTPPL's revised proposal revenues have been adjusted to reflect the updates to the risk free rate and debt risk premium WACC parameters, based on the agreed averaging period.

The AER's final decision on APTPPL's total revenue is arrived at by summing a set of 'building blocks'.[17] These building blocks are displayed in table 1.1 and are discussed throughout this document.

[17] NGR, r. 76.

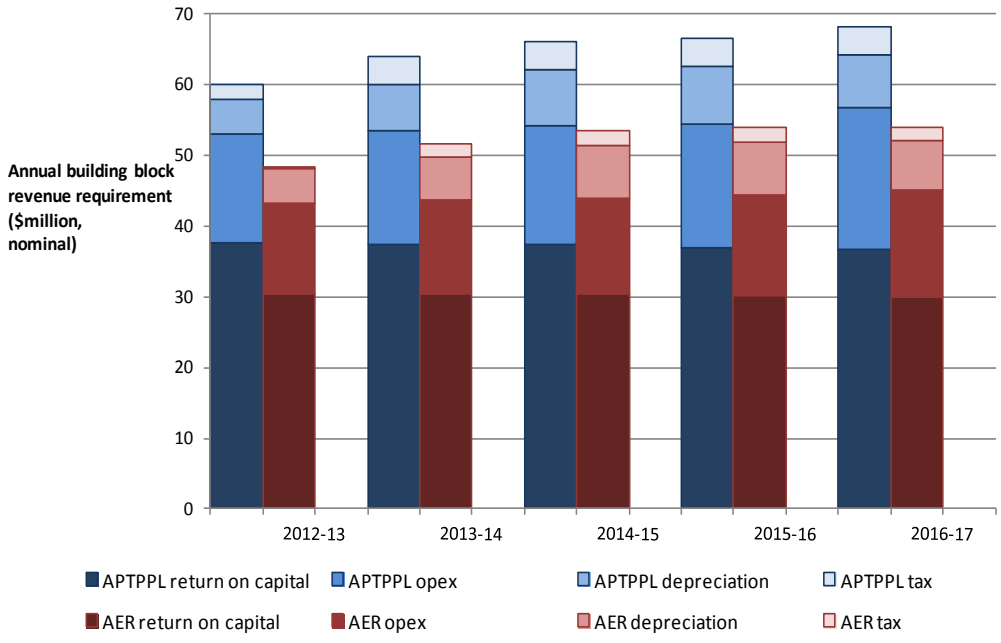
Table 1.1 AER's final decision on APTPPL's RBP revised proposed revenue requirements for the RBP ($million, nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Return on capital	30.5	30.5	30.4	30.1	29.9	151.3
Regulatory depreciation	4.8	6.0	7.5	7.5	6.9	32.7
Operating expenditure	12.8	13.2	13.7	14.2	15.3	69.3
Net tax allowance	0.4	1.9	2.1	2.1	2.1	8.6
Total revenue requirement (unsmoothed)	48.5	51.7	53.6	54.0	54.1	261.9
X factor (%)[a]	–8.75	–5.00	–4.00	–4.00	–3.00	n/a
Expected revenue requirement (smoothed)	46.2	50.0	53.4	57.7	55.4	262.7

Source: AER analysis
(a): The AER's final decision is to be implemented from 1 September 2012. The X factor for 2012-13 is to be applied to the reference tariff in place as at 30 June 2012, with effect from 1 September 2012.

The effect of the AER's final decision adjustments to the building blocks on APTPPL's revised proposal total (unsmoothed) revenue requirement is displayed in figure 1.3. This figure shows that the AER's final decision will reduce APTPPL's revised proposal return on capital, opex, depreciation and tax building blocks.

Figure 1.3 AER's final decision and APTPPL's revised proposed revenue requirement (unsmoothed) ($million, nominal)



Source: AER analysis.

1.2.1 Sensitivity analysis

The AER's final decision approves a smoothed revenue requirements of $262.7 million ($nominal) over the access arrangement period. This is based on a total unsmoothed revenue requirement of $261.9 million. The AER's final decision represents a 19.5 per cent reduction of APTPPL's revised proposed unsmoothed revenue (with updated WACC). The AER also assessed the impact if it had accepted APTPPL's (updated) revised proposed WACC on the opening capital base as at 1 July 2012, and opex.

Table 1.2 shows that total revenue would be $39.7 million ($nominal) or 15.1 per cent higher than the AER's final decision if APTPPL's (updated) revised proposed WACC was adopted. Table 1.3 shows that total revenue based on APTPPL's proposed opening capital base as at 1 July 2012 would be $7.4 million ($nominal) or 2.8 per cent higher than the AER's total approved revenue. It also shows that if APTPPL's proposed opex was adopted, the total revenue would be around $16.7 million ($nominal) or 6.4 per cent higher than the AER's total approved revenue.

Table 1.2 Changes to AER's final decision in total over 5 years, if APTPPL's revised WACC parameters were adopted

	APTPPL's revised proposal	AER's final decision	Increased revenue ($m, nominal)	Increased revenue (per cent)
MRP	8.5%	6.00%	21.4	8.2%
Equity beta	1.00	0.80	12.8	4.9%
WACC	8.79[a]	7.31%	39.7	15.1%

Source: AER analysis.
(a) APTPPL's revised proposed WACC of 9.81 per cent has been updated to reflect the agreed averaging period and parameters accepted in the draft decision. The WACC in APTPPL's revised proposal was calculated using an indicative averaging period and hence differs from that in the table 1.2
(b) The difference in revenues attributable to MRP and beta as individual components does not equal the difference in revenues when these parameters are combined. This results from the cumulative effect of the combination of MRP and beta in the calculation of the WACC.

Table 1.3 Changes to AER's final decision in total over 5 years, if APTPPL's revised capex and opex forecasts were adopted

	APTPPL's revised proposal ($nominal)	AER's final decision ($nominal)	Increased revenue ($million, nominal)	Increased revenue (per cent)
Opening capital base	427.5	417.6	7.4	2.8%
Opex	79.5	64.1	16.7	6.4%

Source: AER analysis.

1.3 Impact on prices

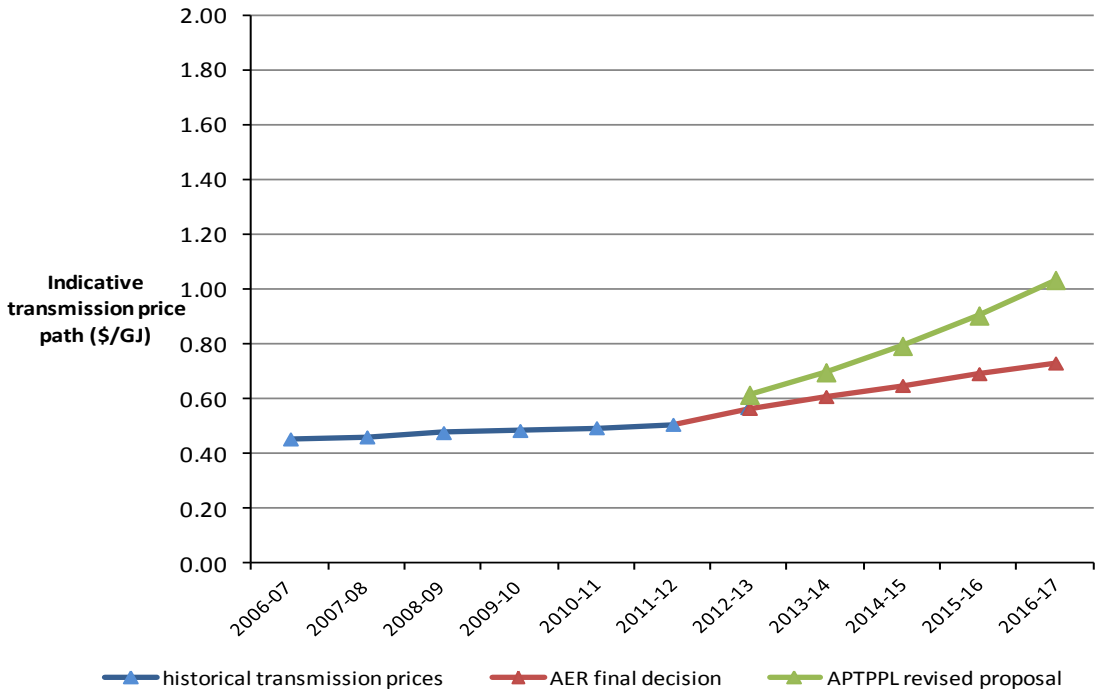
1.3.1 Reference tariffs

The effect of the AER's final decision on APTPPL's forecast reference tariffs for RBP reference services can be estimated by comparing them with APTPPL's forecast reference

tariffs. Using this approach the AER estimates the final decision will result in reference tariffs being 17 per cent lower on average over the access arrangement period in nominal dollar terms than APTPPL's revised proposal (with updated WACC).

These lower reference tariffs are driven by the AER's final decision on a lower WACC, and its decisions relating to the capex over the earlier access arrangement period and opex for the access arrangement period. This is also reflected in the lower X factors (or real price increases). The indicative price path arising from the AER's final decision compared with that in APTPPL's revised proposal for the RBP reference services over the access arrangement period is shown in figure 1.4.

Figure 1.4 Indicative reference tariff paths for the RBP's reference services from 2012–13 to 2016–17 ($/GJ, nominal)



Source: AER analysis.

1.3.2 Average customer bill

In Queensland, the proportion of the average residential gas bill attributable to gas transmission reference tariffs is approximately three per cent.[18] The proportion attributable to large industrial users will depend on the terms of private bi-lateral contracts. To the extent that gas transmission reference services represent a higher proportion of the total bill, the impact from the AER's final decision is likely to be more significant than that estimated for the average residential bill.

[18] Queensland Competition Authority (QCA), *Final Report: Review of small customer gas pricing and competition in Queensland*, November 2008, p. 64.

Table 1.4 shows the estimated impact the AER's final decision will have on the typical residential bill of $505 in 2011–12.[19] The expected increase is $2 in 2012–13 due to the transmission charges approved under this final decision. The average price increase over the next access arrangement period will be approximately $1.36 per annum ($nominal) or approximately $7 in total over the access arrangement period.

In comparison, under APTPPL's revised proposal the estimated increase in the typical residential gas bill would be approximately $3.00 per annum ($nominal) or $15 in total over the access arrangement period.

Table 1.4 Comparison of AER's final decision and APTPPL's revised proposal price impacts on a typical residential bill ($, nominal)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	Total
AER final decision	505[b]	508	509	511	512	513	n/a
Annual change in bill		2.0	1.4	1.2	1.2	1.0	7
APTPPL's revised proposal	505[b]	509	512	514	517	520	n/a
Annual change in bill		4.1	2.7	2.7	2.7	2.7	15

Source: AER analysis.
(a) The impact of the AER's final decision and APTPPL's revised proposal are measured as the combined effect of X factors and forecast inflation of 2.55 per cent over the access arrangement period.
(b) The average residential customer's annual gas bill of $505 was calculated by using the QCA price comparison website and an average household gas consumption of 9.36 GJ per year.

The impact of this decision on industrial users will depend on the terms of private bi-lateral contracts. For industrial users the proportion of the gas bill attributable to gas transmission is likely to be higher than for residential customers. In its 2011 Queensland Gas Market Review, Department of Employment, Economic Development and Innovation (DEEDI) estimated that transmission costs form approximately 25 percent of the gas price for large industrial users.[20]

Based on these assumptions from DEEDI, this final decision is expected to increase overall gas prices by approximately 2.0 percent per annum or approximately 10 per cent over the life of the access arrangement. This compares to a residential price impact of around 1.5 per cent over the life of the access arrangement.

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19 The average residential customer's annual gas bill was calculated by using the QCA price comparison website and an average household gas consumption of 9.36 GJ per year.
QCA's price comparison service accessed on 16 February 2011 at: http://www.qca.org.au/comparator/.

20 Queensland Gas Market Review report, 2011, pp. 24–25.

2 Pipeline overview

2.1 History

The RBP was commissioned in 1969 to transport gas from Wallumbilla (near Roma) to industrial gas users in Brisbane. Since then the capacity of RBP has been expanded through compression and looping, and now also consists of several lateral pipelines.[21] This occurred in response to market growth, and was underpinned by contracts negotiated with third parties such as producers, power stations, gas utilities and major industrial customers.

The RBP was originally owned and operated by Associated Pipelines Limited (APL). In 1987 a joint venture was established between APL (85 per cent) and IOL Petroleum Limited (IOL) (15 percent). In 1988 APL changed its name to CSR Petroleum Pipelines Limited (CSR) and was acquired by Australian Gas Light Company (AGL Company) as part of a larger acquisition of CSR's oil and gas production and transportation businesses. The business was then renamed AGL Petroleum Pipelines Limited. In 2000 AGL Company's divestment of its pipelines group via the float of Australian Pipeline Trust (APT) meant AGL Petroleum Pipelines Limited changed its name to APT Petroleum Pipelines Limited (ACN 009 737 393).[22] In 2001 APTPPL purchased the 15 per cent ownership stake from Interstate Pipelines Limited (formerly IOL). The RBP is now wholly owned and operated by APTPPL.[23]

2.2 Network

The RBP was commissioned in its original configuration in 1969. The mainline is approximately 440 km long with about 30 km of its length running through Brisbane to Gibson Island. The original 410 km section from Wallumbilla to Ellen Grove is 273 mm in diameter. This section is looped with a 406 mm diameter pipeline. The looping was carried out in several stages, between 1988 and 2002, after the original line had been fully compressed. The RBP also connects with the Queensland Gas Pipeline (QGP), which runs from Wallumbilla to Rockhampton (via Gladstone).[24]

The RBP consists of the mainline and three lateral pipelines:

- Peat Lateral—connecting to coal seam methane (CSM) gas sources near Peat and Scotia. It was completed in 2001 (the Scotia extension was completed in 2003) and is 121 km long with a current nominal capacity of 74 TJ/day. The Peat Lateral became part of the covered pipeline on 1 January 2006.

- Swanbank Lateral—feeding into Swanbank Power Station. It was completed in 2001 and is 38 km long with a current capacity of 52TJ/day.

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21 APTPPL, *Access arrangement information for the Roma to Brisbane Pipeline 2006–2011,* 31 January 2006, pp. 1–2. (APTPPL, *Access arrangement information, 2006–2011*).

22 In December 2006, this company was converted from a public company to a proprietary limited company and became APT Petroleum Pipelines Pty Limited.

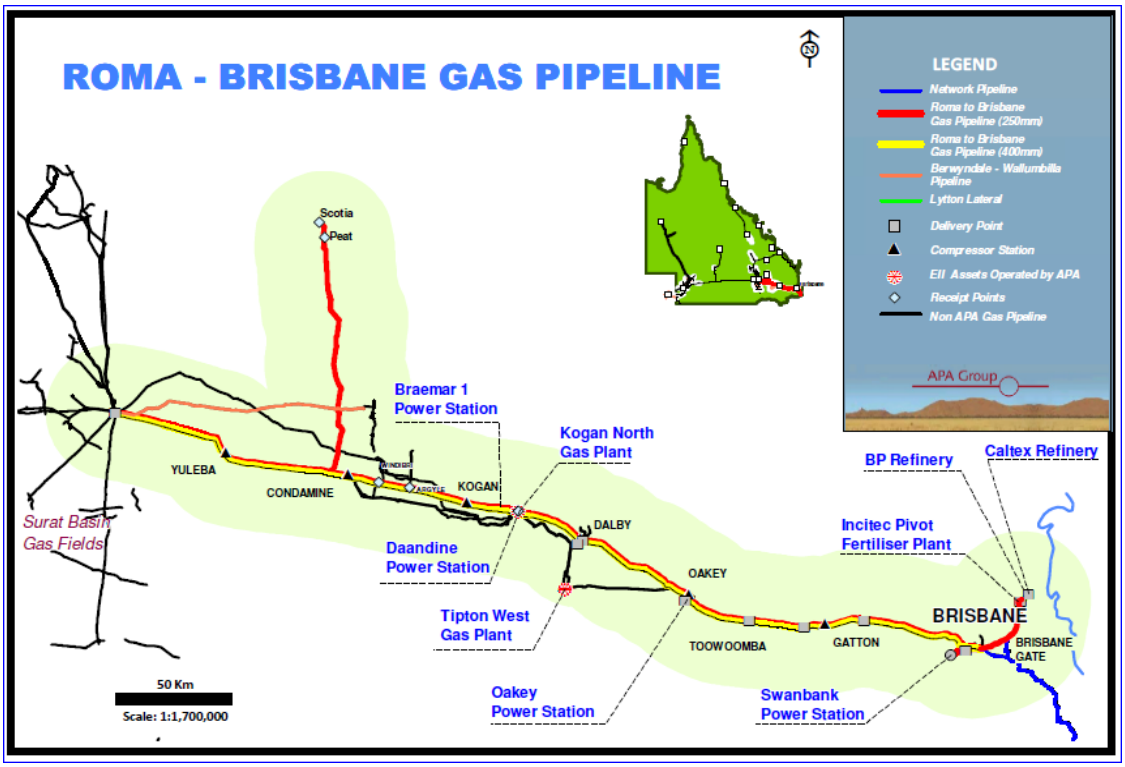
23 APTPPL, *Access arrangement submission,* October 2011,pp. 3-7.

24 APTPPL, *Access arrangement submission*, October 2011, pp. 4–5.

- Lytton Lateral—supplying the Caltex Refinery. It is 6 km long, was completed in 2010 and is also part of the covered pipeline.

The capacity of the covered pipeline as configured at April 2012, including the location of receipt points and loads, is approximately 219 TJ/day. The current nominal licensed capacity of the pipeline is 300 TJ/day. The RBP8 expansion project will be completed and commence operation in August 2012. Volumes during the access arrangement period are expected to grow in line with the RBP8 expansion to 232 TJ/day.

Figure 2.1 Roma to Brisbane Pipeline networks



Source: APTPPL's revised access arrangement information.[25]

There are six compressor stations along the length of the pipeline. Those at Yuleba, Kogan and Oakey serve the original pipeline while those at Condamine, Dalby and Gatton serve the looped pipeline. 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.[26]

[25] APTPPL, *Revised access arrangement information for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017*, May 2012, p. 1 (APTPPL, *Revised* access arrangement information, May 2012).

[26] APTPPL, *Access arrangement submission for the Roma to Brisbane Pipeline 2012–2017* October 2011 (APTPPL, *Access arrangement submission,* October 2011), pp. 4–5.

3 Pipeline services

In considering a full access arrangement for a pipeline, the first step is to identify the covered pipeline that will be regulated through the access arrangement.

After identifying the covered pipeline the next step is to describe the pipeline services and reference service(s) that will be regulated through the access arrangement.

In its draft decision, the AER decided the covered pipeline should include extensions and expansions that were completed during the earlier access arrangement and which were taken to be a part of the covered pipeline. The extension and expansion requirements in the earlier access arrangement set out the circumstances under which the extension or expansion will be covered. The AER's draft decision described the reference service as a service for the receipt, transportation and delivery of gas through any length of the covered pipeline in the direction from Wallumbilla or Peat to Brisbane.

APTPPL, in its revised access arrangement proposal, accepted the AER's draft decision on pipeline services and made revisions to the access arrangement as required by the AER's draft decision amendments 3.1 and 3.2.[27] APTPPL's revised access arrangement proposal did not substantively discuss pipeline services any further.

The AER received a submission from Australia Power and Gas Pty Limited (APG) that addressed the issue of whether 'intra-day renomination', 'as available' and 'backhaul' services should also be considered reference services under the access arrangement.[28] APG submitted that the demand for intra-day renomination is likely to increase and that it should therefore be considered a reference service.

For a service to be a deemed a reference service r. 101(2) of the NGR requires that it is likely to be sought by a significant part of the market. The AER received APG's submission stating that there is likely to be increasing demand for intra-day renomination. Despite this, the AER considers there is insufficient evidence to satisfy it that the requirements of r. 101(2) have been met. The AER maintains the views expressed in its draft decision that:[29]

- there is currently insufficient information about the likely future level of uptake of intra-day renominations services by RBP users. This service is fairly new and users are not currently being charged for utilising the service
- due to this current uncertainty, costs that may be incurred and revenues that may be generated from intra-day renomination during this access arrangement period cannot reasonably be allocated in accordance with the criteria established through r. 93(2) and r. 95(2) of the NGR

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27 *APTPPL, Revised access arrangement submission, May 2012,* p. 8.

28 APG, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal*, dated 21 June 2012, pp 1-2 (APG, *Submission to the AER*, June 2012).

29 AER, *Draft decision, APT Petroleum Pipeline Pty Limited access arrangement proposal for the Roma to Brisbane Pipeline 12 April 2012 – 30 June 2017*, April 2012, pp. 784-85 (AER, *Draft decision*, April 2012).

- further, intra-day renomination services do not satisfy the definition of a 'rebateable service' in r. 93(4) as this service is not in a substantially different market to the reference service.

The AER's detailed reasons for its decision on pipeline services are provided in attachment 3 of the draft decision.[30]

3.1 Final decision

The AER's final decision is that the covered pipeline to which this access arrangement applies consists of:

- the covered pipeline at the start of the earlier access arrangement for the entire capacity of the pipeline as at January 2006
- extensions and expansions undertaken during the earlier access arrangement which are taken to be 'covered' under the extension and expansion requirements in the earlier access arrangement. This comprises:
  - the Lytton Lateral extension - APTPPL elected under clause 7.1 of the earlier access arrangement to have the Lytton Lateral extension covered from 24 November 2009 and offered as a negotiated service at a negotiated tariff. It was completed in 2010.
  - the RBP8 expansion - under clause 7.2 (a) of the earlier access arrangement, the RBP8 expansion, which was commenced in 2011, will be taken to form part of the covered pipeline at the time it comes into operation. On the basis of the information provided by APTPPL the RBP8 expansion project commences operation on 17 August 2012.[31] Accordingly, the RBP8 expansion forms part of the covered pipeline.

The reference service is a service for the receipt, transportation and delivery of gas through any length of the covered pipeline in the direction from Wallumbilla or Peat to Brisbane.

The AER has not changed its position, as set out in the draft decision, that there is insufficient evidence to support the view that intra-day renomination or any other services should be considered reference services in this access arrangement.

30 AER, *Draft decision*, April 2012, pp. 74-86.
31 APTPPL, *Response to information request AER/077 of 6 July 2012*, received 19 July 2012.

4 Capital base

The capital base of a gas transmission pipeline is the capital value attributed to pipeline assets.[32] APTPPL's projected capital base is one of the inputs of the building block approach used by the AER to determine total revenue for each regulatory year of the access arrangement period.

APTPPL proposed an opening capital base of $427.5 million ($nominal) as at 1 July 2012.

The AER must assess APTPPL's proposed capital base by taking into account:

- the value of the capital base as at 12 April 2007
- conforming capex over the earlier access arrangement period included in the opening capital base
- forecast capex over the access arrangement period to be included in the projected capital base at 30 June 2017.

The AER's detailed reasons for its final decision on APTPPL's proposed capex are provided in attachment 1 and appendix C.

4.1 Final decision

The AER does not approve APTPPL's opening capital base of $427.5 million ($nominal) as at 1 July 2012. The AER approves APTPPL's proposed growth capex on the Lytton Lateral and RBP8 expansion project in the earlier access arrangement as set out in its revised access arrangement proposal. However, the AER requires an adjustment to APTPPL's estimated capex relating to the buyout of the Pipeline Management Agreement (PMA) contract. The AER approves a lower amount of conforming capex than that proposed by APTPPL. This is due to a lower amount of capex relating to the early termination of the PMA being approved as conforming capex. Table 4.1 summarises the proposed amendments on APTPPL's opening capital base. After making these adjustments, the AER calculated an opening capital base on 1 July 2012 of $417.6 million ($nominal), $9.9 million less than that proposed by APTPPL, as set out in table 4.1.

APTPPL has forecast $18.3 million ($2011–12) of capex over the access arrangement period for 1 July 2012 to 30 June 2017. This is consistent with the AER's draft decision position and therefore the AER does not require any further amendments to forecast capex. Taking account of changes to the opening capital base, the AER has calculated a closing capital base on 30 June 2017 of $405.1 million ($nominal) as set out in table 4.3 below.

Table 4.1 summarises the AER's final decision on APTPPL's opening capital base in the earlier access arrangement period.

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[32] NGR, r. 69.

Table 4.1 AER approved opening capital base ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Opening capital base	296.4	300.2	335.2	339.5	346.5	362.7
Plus conforming capex[a]	2.7	28.7	2.8	4.3	12.4	57.2
Plus speculative capital	0.0	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less depreciation	(6.0)	(6.5)	(6.8)	(7.1)	(7.7)	(8.0)
Plus indexation	7.2	12.7	8.3	9.8	11.5	5.7
Less redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0	0.0
Closing capital base	300.2	335.2	339.5	346.5	362.7	417.6

Source: AER analysis.
(a) Based on 'as-commissioned' capex and includes a half WACC allowance to compensate for the average six month period before capex is added to the capital base for revenue modelling purposes.

Table 4.2 summarises the AER's final decision on APTPPL's capex in the earlier access arrangement period.

Table 4.2 AER approved capital expenditure by asset class over the earlier access arrangement period ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Stay in business	2.5	27.4	2.7	4.1	2.3	3.4
Pipelines and compressors	0.1	0.0	0.0	0.0	9.5	51.9
Total capex	2.6	27.4	2.7	4.1	11.8	55.3

Source: AER analysis.
Note: Based on 'as-commissioned' capex.

Table 4.3 summarises the AER's final decision on APTPPL's projected capital base for the access arrangement period.

Table 4.3 AER approved forecast closing capital base ($m nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17
Opening capital base	417.6	417.1	415.9	412.1	408.6
Plus conforming capex[a]	4.2	4.8	3.7	4.0	3.5
Plus speculative capital	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0
Less depreciation[b]	(15.4)	(16.7)	(18.1)	(18.0)	(17.3)
Plus indexation	10.7	10.6	10.6	10.5	10.4
Less redundant assets	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0
Closing capital base	417.1	415.9	412.1	408.6	405.1

Source: AER analysis.
(a) Based on 'as-incurred' capex.
(b) Based on 'as-commissioned' capex.

4.2 Summary of analysis and reasons

The AER's final decision on APTPPL's closing capital base at 30 June 2017 is lower than APTPPL's forecast as a portion of the expenditure related to the PMA contract buyout has been removed.

4.2.1 Purchase of Agility business and PMA contract buyout

Prior to 2007, the planning, design, capex project management, and operation and maintenance of the RBP were contracted to Agility Management Pty Ltd[33] under an agreement (the PMA).[34] Under the PMA contract Agility also provided services for other gas pipelines owned and operated by APA.[35] In October 2007, APT Pipelines Limited[36] acquired the Agility business (Agility) relevant to the APTPPL's pipelines from Alinta. As a consequence of that purchase, the PMA contract was terminated. Among other things, the acquisition was intended to internalise the construction, management and services functions by acquiring Agility's various asset management contracts as well as its employees, and

33 Alinta acquired the Agility business from AGL through a combination of merger and demerger transactions and subsequently changed the company name to Alinta Asset Management (3) Pty Limited.

34 KPMG, *APA Group Regulatory accoutring treatment of Pipeline Management Agreement termination payment*, October 2011, p. 6 (KPMG report, October 2011).

35 In April 2000, the PMA contract was entered into between AGL Pipelines Limited (ACN 009 666 700) and AGL Infrastructure Management Pty Limited (ACN 086 013 461). In June 2000, the Australian Pipelines Trust was created and acquired AGL's interest in a number of gas transmission pipelines including the RBP. Consequently, AGL Pipelines Limited became APT Pipelines Limited (ACN 009 666 700). APT Pipelines Limited is part of the APA Group and the parent company of APTPPL.

36 For the purposes of this document, APA Group (APA) is referred to as the party that terminated the PMA contract and acquired the Agility business.

items of property, plant and equipment. It also involved the acquisition of some contracts, rights and obligations that were not related to the RBP. [37]

The total cost to APTPPL to acquire Agility was $206.2 million ($nominal), which included a component of $190.1 million ($nominal) that was simply referred to as goodwill in APA's accounts. The remaining $16.1 million was itemised to specific assets. However, APTPPL did not propose that any of these specific assets be included in the RBP capital base. Instead, it proposed that a portion of the goodwill, $30.1 million ($nominal), be included as stay in business capex for the RBP in the earlier access arrangement period.[38] APTPPL proposed this on the basis that the $30.1 million ($nominal) was totally attributable to the outsourcing arrangement that provided services for the RBP.

In its draft decision, the AER did not approve APTPPL's access arrangement proposal to capitalise a portion of the goodwill associated with the purchase of Agility. APTPPL's revised access arrangement proposal did not adopt the AER's draft decision.

After assessing APTPPL's revised access arrangement proposal, the AER does not approve APTPPL's proposal that $30.1 million ($nominal) is conforming capex. However, the AER accepts that some capex that can be attributed to the PMA buyout is conforming capex and should be included in APTPPL's capital base at the time of purchase in 2007.

The AER considers that $24.8 million ($nominal) satisfies the requirements of r. 79 of the NGR. The AER considers that $24.8 million ($nominal) is a better refection of the capex and opex savings that are attributed to the RBP after the PMA contract was terminated. The AER notes that this amount properly indicates the value of savings accrued from the functions that were carried out under the PMA, specific to the RBP.

The AER conducted its analysis using 2007 data available to the APA Board because it considers that this data most reasonably reflects the information that the APA Board would have taken into account in making its decision about whether or not to purchase Agility and terminate the PMA contract. Therefore, the AER proposes to add $24.8 million ($nominal) into APTPPL's capital base in 2007–08. This amount will be depreciated over the earlier access arrangement period and have a value of $19.03 million ($nominal) as at 2011–12. This is discussed in attachment 4 of the final decision.

4.2.2 Growth capex

The AER approves APTPPL's growth capex associated with the Lytton Lateral and RBP8 expansion project as set out in its revised access arrangement proposal. The AER is satisfied that the costs proposed by APTPPL represent the most cost effective option available. Therefore the AER approves the capex associated with the Lytton Lateral extension.

4.2.3 Non-systems expenditure

In its draft decision, the AER did not approve APTPPL's proposed IT expenditure. The AER was concerned that there was potential for double counting in the recovery of APTPPL's non-system capex costs if APTPPL was able to recover its market operator service (MOS)

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[37] APTPPL, *Access arrangement submission*, October 2011, pp. 36–37; KPMG report, October 2011, pp. 1, 12.
[38] APTPPL, *Access arrangement submission,* October 2011, p. 36.

allocation service costs from Australian Energy Market Operator (AEMO) as a short term trading market (STTM) pipeline operator. In its revised access arrangement proposal, APTPPL has taken into account of the draft decision and removed these costs from its capital base. The AER therefore approves APTPPL's revised non-systems capex.

5 Rate of return

The rate of return is one of the inputs to the building block approach used by the AER to determine total revenue for each regulatory year of the access arrangement period. The rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.

APTPPL's return on capital building block is calculated by multiplying the rate of return with the value of APTPPL's capital base. Consistent with the draft decision, APTPPL's revised access arrangement proposal and previous AER gas decisions, the rate of return adopted by the AER is the nominal vanilla WACC formulation.

The AER's detailed reasons for its decision on the rate of return are provided in attachment 2 and appendix B.

5.1 Final decision

The AER's final decision does not approve APTPPL's proposed rate of return of 8.79 per cent (nominal vanilla).[39] The AER does not approve APTPPL's revised proposal rate of return because, in the AER's opinion, 7.31 per cent is a preferable alternative that is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. The AER considers this rate provides APTPPL with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects APTPPL will be able to attract funds in order to support the efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers.

Consistent with the draft decision, the AER agrees with a number of aspects of APTPPL's proposed rate of return in its revised access arrangement proposal. Specifically, the AER agrees with:

- adopting the capital asset pricing model (CAPM) to calculate the cost of equity
- adopting the yield on 10 year Commonwealth Government Securities (CGS) as the proxy for the risk free rate
- specifying the cost of debt as the DRP over the risk free rate
- determining the DRP by defining the benchmark bond as a 10 year Australian corporate bond with a BBB+ credit rating and measuring the benchmark bond rate using the extrapolated Bloomberg BBB rated 7 year fair value curve (FVC)
- extrapolating the Bloomberg BBB rated 7 year FVC to a 10 year maturity (consistent with the definition of the benchmark bond) using historical Bloomberg FVCs

[39] APTPPL's revised proposed indicative rate of return has been updated to reflect the risk free rate and debt risk premium calculated based upon the agreed averaging period. APTPPL's indicative rate of return was 9.81 per cent. APTPPL, *Revised access arrangement submission*, May 2012, p. 44.

- determining the risk free rate and DRP using data averaged over the 20 business day period from 25 June 2012 to 20 July 2012.

Also consistent with the draft decision, the AER does not accept the following aspects of APTPPL's revised access arrangement proposal:

- the value for the market risk premium—the AER adopts a 6 per cent MRP instead of APTPPL's revised proposal of 8.5 per cent

- the value for the equity beta—the AER adopts a 0.8 equity beta instead of APTPPL's proposal of 1.0.

The main reasons for these differences are summarised in the next section. The individual WACC parameters and consequent overall rate of return determined by the AER are set out in Table 5.1.

Table 5.1 AER's final decision on APTPPL's rate of return (nominal)

Parameter	Previous ACCC decision	AER draft decision [a]	APTPPL revised proposal [a]	AER final decision
Nominal risk free rate	5.70%	2.95%	2.95%	2.95%
Equity beta	1.0	0.8	1.0	0.8
Market risk premium	6.0%	6.0%	8.5%	6.0%
Debt risk premium	1.14%	4.06%	4.06%	4.06%
Gearing level	60%	60%	60%	60%
Inflation forecast	3.21%	2.55%	2.55%	2.55%
Gamma	0.5	0.25	0.25	0.25
Nominal post-tax cost of equity	11.70%	7.75%	11.45%	7.75%
Nominal pre-tax cost of debt	6.84%	7.01%	7.01%	7.01%
Nominal vanilla WACC	8.78%	7.31%	8.79%	7.31%

Source: AER, *Draft decision*, April 2012; APTPPL, *Revised access arrangement proposal*, May 2012 and AER analysis.

a The AER draft decision and APTPPL revised access arrangement proposal parameters have been updated to reflect the final averaging period, based on the respective methodologies. The parameters published in the draft decision and revised access arrangement proposal were calculated by using indicative averaging periods and hence differ from those in the table above.

The rate of return in this decision for APTPPL is lower than the rate of return determined by the AER in previous decisions. The fact that the overall rate of return in this decision is lower than in previous decisions does not of itself make it unreasonable. The cost of debt in this decision makes up 60 per cent of the overall rate of return. The AER and APTPPL agree on

the approach to determining the cost of debt. The cost of debt has fallen by approximately one per cent compared with recent AER decisions.[40] Hence, the AER and APTPPL agree that this reduction reflects prevailing conditions in the market for funds and the risk involved in providing reference services. This provides the AER with a degree of confidence that a fall in the overall rate of return, in itself, is not unreasonable.

APTPPL's concerns surround the cost of equity and the extent to which the cost of equity determined by the AER in this decision is lower than that determined in previous decision. A lower cost of equity contributes to a lower overall rate of return.

The two points of disagreement between the AER and APTPPL on the cost of equity are over the appropriate values for the MRP and equity beta.

APTPPL's revised access arrangement proposal lists a third point of disagreement between it and the AER. APTPPL described this third point of disagreement as:

> The application of the Capital Asset Pricing Model using a long term average market risk premium with a currently observed risk free rate.[41]

This is a mischaracterisation of the AER's draft decision. Both in the draft decision and this final decision the AER estimates a 10 year forward looking risk free rate and a 10 year forward looking MRP.

The AER acknowledges that APTPPL was concerned with the impact of the lower risk free rate on its overall rate of return and that this was a driving factor in APTPPL proposing a high MRP. The AER and APTPPL agree on the methodology for estimating the risk free rate. It is the value of the MRP that is in disagreement. Accordingly, the AER has addressed APTPPL's concerns as part of its estimation of the MRP.

5.2 Summary of analysis and reasons

This section summarises the AER's reasoning in respect of the MRP and equity beta—the two aspects of APTPPL's proposed rate of return that the AER does not accept. The AER's detailed reasoning on these and the other WACC parameters is set out in attachment 2 and appendix B.

5.2.1 Market risk premium

The AER adopts a MRP of 6 per cent, consistent with the draft decision. The AER does not accept APTPPL's proposed 8.5 per cent MRP. A MRP of 6 per cent is more reflective of prevailing conditions in the market for funds.

The AER takes into account the following evidence in determining the MRP:

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40 AER, *Final distribution determination, Aurora Energy Pty Ltd 2012–12 to 2016–17*, April 2012, p. 29 (AER, *Final decision: Aurora distribution determination*, April 2012).

41 APTPPL, *Revised access arrangement submission*, May 2012, p. 38.

- Historical excess returns—The long-term historical estimates of average excess returns produce a range of 4.9–6.1 per cent (based on arithmetic averages) and 3.0–4.7 per cent (based on geometric averages).[42]

- Survey based estimates—Survey measures both before and after the height of the global financial crisis (GFC) support 6 per cent as the MRP.

- Dividend growth model (DGM) estimates—The output from these models are highly sensitive to the exact construction of the model, assessment of inputs, and point of time of estimation. In this context, DGM estimates are useful only as a cross check on the reasonableness of other methods.

- Implied volatility analysis—There are no direct implications of implied volatility for the 10 year forward looking MRP. To the limited extent that this evidence is relevant to expectations of market risk, it supports an MRP of 6 per cent.

- Market commentary and economic outlook—Less weight has been placed on this evidence, which is consistent with an MRP of 6 per cent.

The AER interprets the information available having regard to the advantages and limitations of each type of evidence. In the AER's view the weight of evidence supports the adoption of a 10 year forward looking MRP estimate of 6 per cent.

The AER notes that available evidence on the MRP is imprecise. The AER considers that it is reasonable to assess a range of evidence to inform the best estimate of the MRP. In this assessment the AER must apply its judgment to interpret the information before it. After this careful assessment, the AER remains of the view that the available evidence supports an MRP of 6.0 per cent as the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds. The AER holds this view for the following reasons:

- Historical excess returns—these estimates provide a range of 4.9–6.1 per cent if calculated on an arithmetic average basis and a range of 3.0–4.7 per cent if calculated on a geometric average basis.

- Survey evidence—surveys of market practitioners consistently supported 6 per cent as the most commonly adopted value for the MRP. These surveys also indicated that the average MRP adopted by market practitioners was approximately 6 per cent.

- Consultant advice—Professor McKenzie and Associate Professor Partington advised the AER to adopt a 6 per cent MRP estimate.

- Recent practice among Australian regulators—MRP is an economy wide measure; other regulators in Australia consistently adopted an MRP estimate of 6 per cent under the same CAPM framework.

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[42] These estimates have been adjusted to incorporate a value for distributed imputation credits (theta) of 0.35. J. C. Handley, *An estimate of the historical equity risk premium for the period 1883 to 2011*, April 2012, p. 6 (Handley, *Historical equity risk premium to 2011*, April 2012).

- Recent Australian Competition Tribunal (Tribunal) decisions—in the Envestra, ATCO and DBNGP matters, the AER and the Economic Regulation Authority of Western Australia (ERA) determined 6 per cent as the best estimate of the MRP based on the available evidence. The Tribunal held the view that it was open for the regulators to adopt 6 per cent for the MRP in all these decisions.

In forming its position on the MRP, the AER has considered whether the lower risk free rate should impact its estimation of the MRP. On face value there may be a theoretical case for a negative relationship between the risk free rate and MRP under certain circumstances. However, it is not clear that any such theoretical relationship holds over the relevant investment horizon, and the empirical evidence in support of this relationship is not strong. The AER considers in detail the relationship between the risk free rate and MRP in attachment 2.

Overall, the AER considers that a MRP of 6.0 per cent provides APTPPL with a reasonable opportunity to recover at least its efficient costs incurred in providing reference services and meet regulatory requirements.[43]

5.2.2 Equity beta

The AER adopts an equity beta of 0.8. Consistent with the draft decision, the AER does not accept APTPPL's proposed equity beta of 1.0. An equity beta of 0.8 is more reflective of the risks involved in providing reference services than the equity beta of the average firm in the market.

The AER's estimate of 0.8 takes into account the empirical evidence examined by the AER during its 2009 review of WACC parameters for electricity service providers. In addition to this WACC review evidence, the AER also considers a broader set of empirical analysis, including material prepared by network service providers and their consultants. Overall, this empirical evidence indicates a point estimate of between 0.4 and 0.7 for the equity beta of electricity and gas service providers.[44] The adoption of an equity beta just above this range is in recognition of the level of imprecision around these estimates and the desirability of stability in regulatory decision making over time.[45] Since the WACC review, the AER has adopted a consistent approach to estimating equity beta in each of its regulatory decisions, which has resulted in the consistent adoption of an equity beta of 0.8 across all gas distribution and transmission service providers.

The AER considers that alternative empirical analysis—using different statistical techniques or different time periods—provides supportive results that also converge on the range of 0.4 to 0.7. Cross checks against Australian water utilities or overseas electricity and gas networks also indicate that the equity beta set by the AER is reasonable.

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43 NGL, s. 24(2).

44 See AER, *Final decision*: *Electricity transmission and distribution network service providers*: *Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, pp. 239–344 (AER, *Final decision: WACC review*, May 2009). Other estimates are discussed later in this decision document.

45 Australian regulators (including state regulators) have previously adopted equity beta estimates in the range 0.65 to 1.1 for electricity and gas service providers. In its last decision on the RBP, the ACCC adopted an equity beta of 1.0, but noted that a lower figure was supported by the empirical evidence. See AER, *Draft decision*, April 2012, pp. 317–318.

The AER commissioned expert advice from Professor McKenzie and Associate Professor Partington and published this advice with its draft decision. The expert advice provides conceptual analysis that supports the equity beta for a gas transmission service provider as being 'among the lowest possible' and below 1.0.[46] Professor McKenzie and Associate Professor Partington were also asked to comment on APTPPL's concerns that the AER's empirical estimates were unreliable or biased. They found no foundation to these criticisms.

APTPPL's revised access arrangement proposal stated that the AER had disregarded substantial evidence that the benchmark equity beta should be at least 1.0,[47] namely a March 2011 report by the Competition Economics Group (CEG).[48]

The AER sets out in this decision document the reasons why it arrives at its decision, including its critical evaluation of the different pieces of evidence, such as the material put by APTPPL (and its consultants).[49] The March 2011 CEG report does not indicate that the Australian equity beta estimates are unreliable, nor does it indicate that CEG's United States estimates are a preferable proxy. The AER considers that the material before it supports a conclusion that is different to the view submitted by APTPPL. Giving appropriate regard to the CEG report does not alter the broad pattern of support for the AER's equity beta estimate of 0.8.[50]

Overall, the AER considers that an equity beta of 0.8 provides APTPPL with a reasonable opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.[51]

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46 M. McKenzie, and G. Partington, *Report to the AER: Estimation of the equity beta (conceptual and econometric issues) for a gas regulatory process in 2012,* 3 April 2012, pp. 15, 23 (McKenzie and Partington, *Estimation of equity beta*, April 2012).

47 APTPPL, *Revised access arrangement submission*, May 2012, p. 43.

48 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 50-51 (the March 2011 CEG report).

49 For clarity, APTPPL did not reference (or submit) the March 2011 CEG report with its original proposal, and hence this report received no explicit reference in the AER's draft decision. However, the AER was cognisant of the March 2011 CEG report when making the draft decision, because it was previously submitted to the AER in earlier regulatory processes. In those decisions (after setting out its analysis of this CEG report) the AER applied an equity beta of 0.8. See AER, *Final decision: APT Allgas, Access arrangement proposal for the Queensland Gas Network, 1 July 2011–30 June 2016*, June 2011, pp. 29–32, 112–121 (AER, *Final decision: APT Allgas access arrangement*, June 2011); and AER, *Final decision: Envestra Ltd, Access arrangement proposal for the Queensland Gas Network, 1 July 2011–30 June 2016*, June 2011, pp. 42–44, 164–172 (AER, *Final decision: Envestra access arrangement Qld*, June 2011).

50 In particular, CEG presents Australian equity beta estimates that accord with the range of 0.4 to 0.7, notwithstanding the CEG recommendation that an equity beta of 1.0 be applied.

51 NGL, s. 24(2).

6 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital costs incurred in the provision of pipeline services.[52] Opex therefore represents the ongoing operating costs of APTPPL providing gas transmission services. Opex incorporates labour costs and other non–capital costs associated with operating the RBP.

The AER is required to assess APTPPL's forecast opex to decide whether it is satisfied the forecast opex complies with applicable criteria prescribed by the NGL and NGR. The AER must accept a forecast that is arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances.[53]

The AER's detailed reasons for its final decision on operating expenditure are provided in attachment 3 of this final decision.

6.1 Final decision

The AER is not satisfied APTPPL's revised total forecast opex satisfies the opex criteria set out in r. 91 of the NGR. If the AER were to approve APTPPL's opex forecast, the final decision would have resulted in total revenue increasing by around $15.4 million ($2011–12) over the forthcoming access arrangement period.

The AER's opex forecast differs from APTPPL's principally due to the AER not accepting APTPPL's labour cost escalator forecasts. The AER is not satisfied that APTPPL's proposed cost escalators are arrived at on a reasonable basis or represent the best possible estimate or forecast in the circumstances. Labour costs are discussed in confidential appendix E.

In this final decision, the AER:

- revises its forecast opex for APTPPL to operate the RBP8 expansion project
- approves the incorporation of an opex allowance for APTPPL's forecast carbon costs
- does not approve APTPPL's proposed labour and contractor cost escalators.

The AER's final decision on APTPPL's total opex allowance for the access arrangement period is $64.1 million ($2011–12). The AER's final decision on APTPPL's opex is presented in figure 6.1 and table 6.1 below.

Remaining differences between the AER and APTPPL relate predominantly to labour cost forecasting.

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52 NGR, r. 69.
53 NGR, r. 74.

Figure 6.1 AER final decision on APTPPL's opex

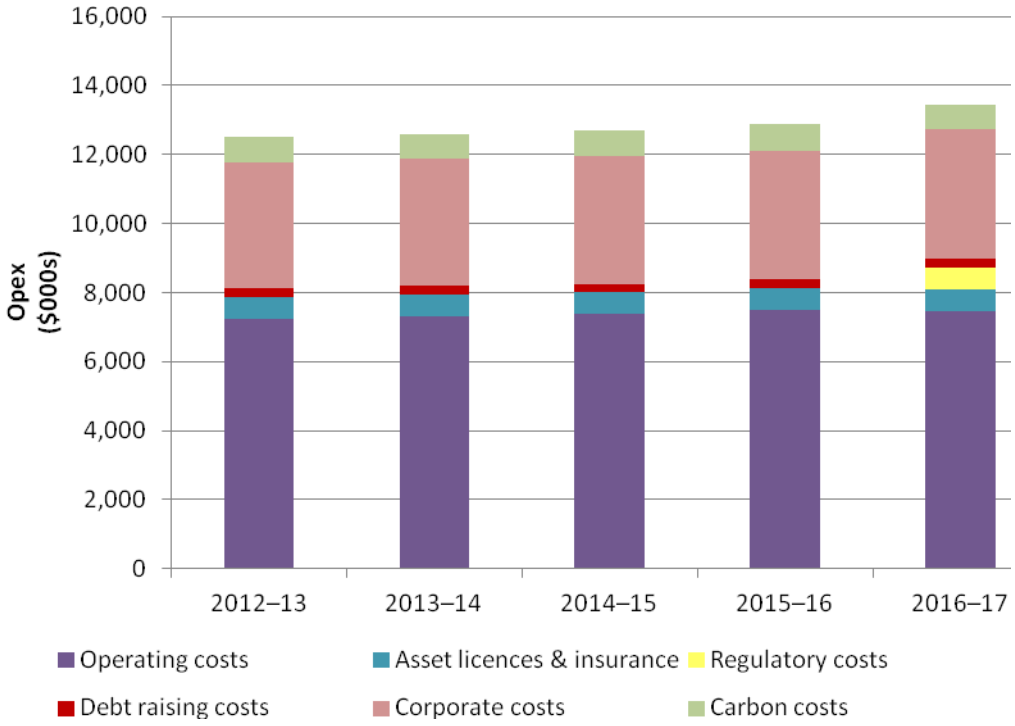

Table 6.1 AER final decision on APTPPL's opex ($million, 2011–12)[54]

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Labour	5.3	5.3	5.4	5.4	5.4	26.8
Contractors O&M	0.9	0.9	0.9	0.9	0.9	4.6
Other operating costs	1.1	1.1	1.1	1.2	1.1	5.5
Total controllable opex	7.3	7.3	7.4	7.5	7.5	36.9
Asset licences & insurance	0.6	0.6	0.6	0.6	0.6	3.2
Regulatory costs	0	0	0	0	0.6	0.6
Debt raising costs	0.3	0.3	0.3	0.2	0.2	1.3
Corporate costs	3.6	3.7	3.7	3.7	3.8	18.5
Carbon costs	0.7	0.7	0.7	0.8	0.7	3.7
Total Operating Expenditure	**12.5**	**12.6**	**12.7**	**12.9**	**13.5**	**64.1**

Source: AER analysis.

[54] Costs for internal labour, contract labour and other operating costs have been removed to retain the confidentiality of APTPPL's labour related funding. These details are provided in confidential appendix E.

6.2 Summary of analysis and reasons

In its revised access arrangement submission APTPPL proposed total opex of $79.5 million ($2011–12) in response to the AER's draft opex decision of $60.9 million ($2011–12). APTPPL's revised total opex proposal is higher than its initial access arrangement proposal. This is driven by the addition of an annual opex allowance for carbon costs and substituted labour cost escalators.

APTPPL's access arrangement proposal did not include carbon costs in its opex forecasts due to uncertainty over the imposition of a carbon regime.[55] APTPPL instead proposed to recover carbon related costs through a forward looking cost pass through mechanism.

The AER did not explicitly address the recovery of carbon costs in its draft decision. The AER therefore exercised its discretion under r. 60(2) to allow APTPPL to revise its access arrangement proposal to include carbon costs as opex (with an accompanying true-up mechanism). This is because:

- the Clean Energy Act 2011 and associated legislative instruments received royal assent on 18 November 2011, after APTPPL submitted its access arrangement proposal
- APTPPL noted in its October 2011 submission that it had not included carbon costs as opex due to uncertainty over the imposition of a carbon regime.

The AER approved APTPPL's proposed opex carbon cost allowance as it satisfied the requirements of r. 74(2) and r. 91 of the NGR.

The AER estimated APTPPL's debt raising costs using updated information.

Table 6.1 sets out the AER's final decision on each opex element.

[55] APTPPL, *Access arrangement submission,* October 2011, p. 104 (second last paragraph).

7 Regulatory depreciation

Regulatory depreciation is used to model the nominal asset values in the capital base over the access arrangement period and the depreciation allowance in the total revenue requirement. It is a component of APTPPL's building block revenue requirements.

When determining the total revenue for APTPPL, the AER must decide on the depreciation for the projected capital base (or return of capital).[56]

APTPPL's annual regulatory depreciation allowances is the sum of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

The AER's detailed reasons for its decision on regulatory depreciation are provided in attachment 4.

7.1 Final decision

The AER does not approve APTPPL's revised proposed forecast regulatory depreciation allowance of $34.8 million ($nominal)[57] for the access arrangement period. This is because the AER does not approve APTPPL's revised proposed capex for the 'PMA' asset class as discussed in appendix C. For this final decision, the AER approves the proposed standard and remaining economic lives for the 'PMA' asset class.

APTPPL's revised proposal adopted the AER's draft decision amendments to the standard economic lives for the 'Easements' and 'RBP expansion 8' asset classes.[58] Therefore, the AER confirms its draft decision to change the standard economic life inputs for the 'Easements' and 'RBP expansion 8' asset classes in the PTRM to 'n/a' and 46 years respectively.

In the draft decision, the AER accepted APTPPL's proposed weighted average method for calculating its remaining economic lives for the majority of its asset classes.[59] However, the AER updated the remaining economic lives using the weighted average method to reflect the required amendments to the opening capital base. The AER also adjusted the remaining economic lives for the 'Easements' and RBP expansion 8' asset classes arising from the changes to the standard economic lives for these asset classes. APTPPL's revised proposal adopted the AER's adjustments to the remaining economic lives of these asset classes.

The AER approves APTPPL's revised proposed remaining economic lives as at 1 July 2012. This is because there was no material change to the updated remaining economic lives, arising from changes to the opening capital base, using the weighted average method accepted in the draft decision.

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56 NGR, r. 76(b).

57 All dollar amounts are in nominal terms in this attachment because regulatory depreciation is an output of the post-tax revenue model (PTRM). The output of the PTRM such as the tax allowance and regulatory depreciation are expressed in nominal dollar terms, whereas the inputs of the PTRM such as forecast opex and capex are expressed in June 2012 real dollar terms.

58 APTPPL, *Revised access arrangement submission*, May 2012, pp.36–37.

59 AER, *Draft decision,* April 2012, p. 111.

The AER's determinations regarding other components of APTPPL's revised proposal also affect the regulatory depreciation allowance. These are discussed in other attachments and include:

- the opening capital base (attachment 1)
- forecast capex (attachment 1)
- forecast inflation (attachment 2).

The AER's final decision on APTPPL's total regulatory depreciation allowance over the access arrangement period is $32.7 million ($nominal). This represents a reduction of $2.1 million ($nominal) or 6.0 per cent of APTPPL's revised proposed total regulatory depreciation allowance. Table 7.1 sets out the AER's final decision on APTPPL's annual regulatory depreciation allowance for the access arrangement period.

Table 7.1 AER final decision on APTPPL's regulatory depreciation allowance for the access arrangement period ($ nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Straight-line depreciation	15.4	16.7	18.1	18.0	17.4	85.5
Less: indexation on opening capital base	10.7	10.6	10.6	10.5	10.4	52.8
Regulatory depreciation	4.8	6.0	7.5	7.5	6.9	32.7

Source: AER analysis.

7.2 Summary of analysis and reasons

The AER's final decision on APTPPL's regulatory depreciation allowance is $32.7 million ($nominal). This represents a reduction of $2.1 million ($nominal) or 6.0 per cent of APTPPL's revised proposed regulatory depreciation allowance.

The AER's final decision on the standard economic lives (for the purposes of depreciating forecast capex) and the remaining asset lives (for the purposes of depreciating existing assets in the opening capital base) also impact on the estimate of regulatory depreciation.

7.2.1 Standard economic lives

The AER's draft decision accepted APTPPL's proposed standard economic lives for its asset classes, except for the 'PMA', 'Easements' and 'RBP expansion 8' asset classes.[60]

APTPPL's revised access arrangement proposal adopted the AER's draft decision to amend the standard economic lives for the 'Easements' and 'RBP expansion 8' asset classes to 'n/a' and 46 years respectively.[61]

[60] AER, *Draft decision*, April 2012, pp. 107–110.

APTPPL's revised access arrangement proposal included the 'PMA' asset class in the capital base and tax asset base and assigns a standard economic life of 12 years to this asset class. The AER accepts APTPPL's revised proposal and considers that 12 years represents a suitable period over which to depreciate (amortise) the expenditure associated with the PMA contract buyout.

7.2.2 Remaining economic lives

The AER approves APTPPL's revised proposed remaining economic lives as at 1 July 2012. The AER's changes to the capex in the earlier access arrangement period and the adjustment for actual inflation affect the value of asset classes in the opening capital base. However, these adjustments did not materially affect the remaining economic lives. Consequently, the AER accepts the revised proposed remaining economic lives for the final decision.

The AER accepts the remaining economic life of the 'PMA' asset class is eight years as at 1 July 2012. Consistent with the approach to depreciating capex in the AER's roll forward model, the PMA expenditure has been depreciated over the period of four years from 2008–09 through to 2011–12.

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[61] APTPPL, *Revised access arrangement submission*, May 2012, pp. 36–37.

8 Corporate income tax

After return on capital, opex and depreciation, corporate income tax is the last component of APTPPL's building block revenue requirement. Accordingly, when determining the total revenue for APTPPL, the AER must estimate APTPPL's cost of corporate income tax.[62]

APTPPL adopted the post-tax framework to derive its revenue requirement for the access arrangement period.[63] Under the post-tax framework, a separate corporate income tax allowance is calculated as part of the building blocks assessment.

The AER's detailed reasons for its decision on corporate income tax are provided in attachment 5.

8.1 Final decision

The AER does not approve APTPPL's revised proposed forecast corporate income tax allowance of $20.9 million ($nominal) for the access arrangement period. This is because of the AER's decision to adjust several of APTPPL's proposed components including the opening tax asset base as at 1 July 2012 (Attachment 1,section 1.4.1), the return on capital (attachment 2) and forecast opex (attachment 3). The AER's adjustments result in an estimated cost of corporate income tax allowance of $8.6 million ($nominal) as shown in table 8.1. Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 20.9 per cent for this final decision.

Consistent with the draft decision, the AER accepts APTPPL's proposed method to roll forward the opening tax asset base as at 1 July 2012.[64] However, the AER does not approve APTPPL's revised proposed opening tax asset base of $134.4 million ($nominal) as at 1 July 2012.[65] The AER's final decision on APTPPL's revised proposed capex in the earlier access arrangement period to be rolled into the tax asset base reduces APTPPL's proposed opening tax asset base as at 1 July 2012 by $1.1 million ($nominal). The AER determines APTPPL's opening tax asset base as at 1 July 2012 is $133.3 million ($nominal).

APTPPL's revised access arrangement proposal adopted the AER's draft decision amendment to the standard tax asset life for the 'Easements' asset class.[66] Therefore, the AER confirms its draft decision to change the standard tax asset life input for the 'Easements' asset class in the PTRM to 'n/a'.

In the draft decision, the AER accepted APTPPL's proposed weighted average method to calculate the remaining tax asset lives as at 1 July 2012. For this final decision, the AER approves APTPPL's revised proposed remaining tax asset lives as at 1 July 2012. This is because there was no material change to the updated remaining tax asset lives, arising from changes to the opening tax asset base, using the weighted average method accepted in the

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62 NGR, r. 76(c).
63 APTPPL, *Access arrangement information*, October 2011, p. 17.
64 AER, *Draft decision*, April 2012, pp. 116–117.
65 APTPPL, *Revised access arrangement submission*, May 2012, p. 44.
66 APTPPL, *Revised access arrangement submission*, May 2012, p. 36.

draft decision. The AER also approves the proposed standard and remaining tax asset lives for the 'PMA' asset class.

Table 8.1 AER final decision on APTPPL's corporate income tax allowance ($m, nominal).

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Corporate income tax	0.5	2.6	2.8	2.8	2.8	11.4
Less: value of imputation credits	0.1	0.6	0.7	0.7	0.7	2.9
Net corporate income tax allowance	0.4	1.9	2.1	2.1	2.1	8.6

Source: AER analysis.

8.2 Summary of analysis and reasons

The AER does not approve APTPPL's revised proposed corporate income tax allowance of $20.9 million ($nominal) for the access arrangement period. This is because the AER's decisions on other components of APTPPL's revised access arrangement proposal have had a consequential effect on the estimated corporate income tax allowance under r. 76(c) of the NGR. These are discussed in other attachments and include:

- the opening capital base (attachment 1)
- rate of return (attachment 2)
- forecast opex (attachment 3).

The AER's final decision on the corporate income tax allowance for APTPPL also reflects the AER's decision on matters that impact on the estimate of tax depreciation, as discussed below. The AER does not approve APTPPL's revised proposed opening tax asset base of $134.4 million ($nominal) as at 1 July 2012. The AER's final decision on APTPPL's revised proposed capex in the earlier access arrangement period reduces APTPPL's proposed opening tax asset base as at 1 July 2012 by $1.1 million ($nominal). This is because the proposed capex in the earlier access arrangement period, as discussed in attachment 1, is an input for the purposes of rolling forward the tax asset base to 1 July 2012.

The AER's draft decision accepted APTPPL's proposed standard tax asset lives for its asset classes except for the 'PMA' and 'Easements' asset classes. APTPPL's revised access arrangement proposal adopted the AER's draft decision to amend the standard tax asset life for the 'Easement' asset class to 'n/a'.[67]

APTPPL's revised access arrangement proposal included the 'PMA' asset class in the capital base and tax asset base. APTPPL proposed a standard tax asset life of five years for the 'PMA' asset class.[68]

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[67] APTPPL, *Revised access arrangement submission*, May 2012, p. 36.
[68] APTPPL, *Access arrangement submission*, October 2011, p. 47.

The AER accepts APTPPL's revised proposal that a standard tax asset life of five years is appropriate for the 'PMA' asset class. In determining the appropriate standard tax asset life of the 'PMA' asset class, the AER has had regard to the ATO tax ruling on business related capital expenditure[69] and section 40-880 of the ITAA.[70]

The AER approves APTPPL's remaining tax asset lives as at 1 July 2012. Given the standard tax asset life of the 'PMA' asset class, the AER also accepts the APTPPL's tax depreciation modelling of the PMA expenditure over the period of four years from 2008–09 to 2011–12 that results in a remaining tax asset life of one year. The AER considers APTPPL's revised proposed remaining tax asset life for the 'PMA' asset class provides a reasonable estimate of tax depreciation, upon which the cost of corporate taxation is determined under r. 74(2) of the NGR.

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69 ATO, *TR 2011/6 Income tax: business related capital expenditure – section 40-880 of the Income Tax Assessment Act 1997 core issues*, Viewed on 5 July 2012, http://law.ato.gov.au/atolaw/view.htm?DocID=TXR/TR20116/NAT/ATO/00001#P57.

70 ATO, Income *Tax Assessment Act (ITAA) 1997 – Section 40.880*, viewed on 5 July 2012, http://www.austlii.edu.au/au/legis/cth/consol_act/itaa1997240/s40.880.html.

9 Capacity utilisation forecasts

The NGR requires, to the extent it is practicable, that an access arrangement must include a forecast of pipeline capacity and utilisation of pipeline capacity over the access arrangement period and the basis on which the forecast has been derived. In its revised proposal APTPPL submitted revisions to its capacity and capacity utilisation forecasts. The AER has reviewed these revised forecasts under r. 60 of the NGR.

In this decision, capacity refers to the fixed capacity of the RBP that is available for contracting and utilisation refers to the amount of RBP capacity that is contracted (which can be up to 100 percent of capacity). The capacity utilisation forecast is therefore calculated according to the following equation:

$$\text{Capacity utilisation forecast} = \frac{\text{forecast of total capacity contracted}}{\text{total pipeline capacity forecast}}$$

In this equation, the capacity utilisation forecast can be up to 100 per cent of the pipeline capacity having regard to the constraint imposed by the total capacity of the pipeline.

As will be discussed in the next chapter, APTPPL's proposes a single reference tariff with components for capacity and throughput. For the purpose of tariff calculation, the numerator in the equation above —the forecast of total capacity contracted— is used to calculate the capacity component of the reference tariffs. Another component of the tariff calculation is the throughput, which refers to the quantity of gas transported from day to day.

The AER's detailed reasons for the final decision on APTPPL's capacity and capacity utilisation forecasts are provided in attachment 3.

9.1 Final decision

The AER does not approve APTPPL's revised pipeline capacity forecasts.

APTPPL proposed that pipeline capacity will decrease in 2016-17 by 17TJ/day. [71] The AER does not approve the decrease in pipeline capacity in 2016-17. This decision recognises that the 17 TJ/day of capacity which is only available towards the western end of the pipeline remains part of the total capacity of the RBP. The pipeline capacity forecasts approved by the AER for the RBP are set out in table 9.1 below and are presented in figure 9.1 below.

The AER does not approve APTPPL's revised capacity utilisation forecasts.

APTPPL proposed that:

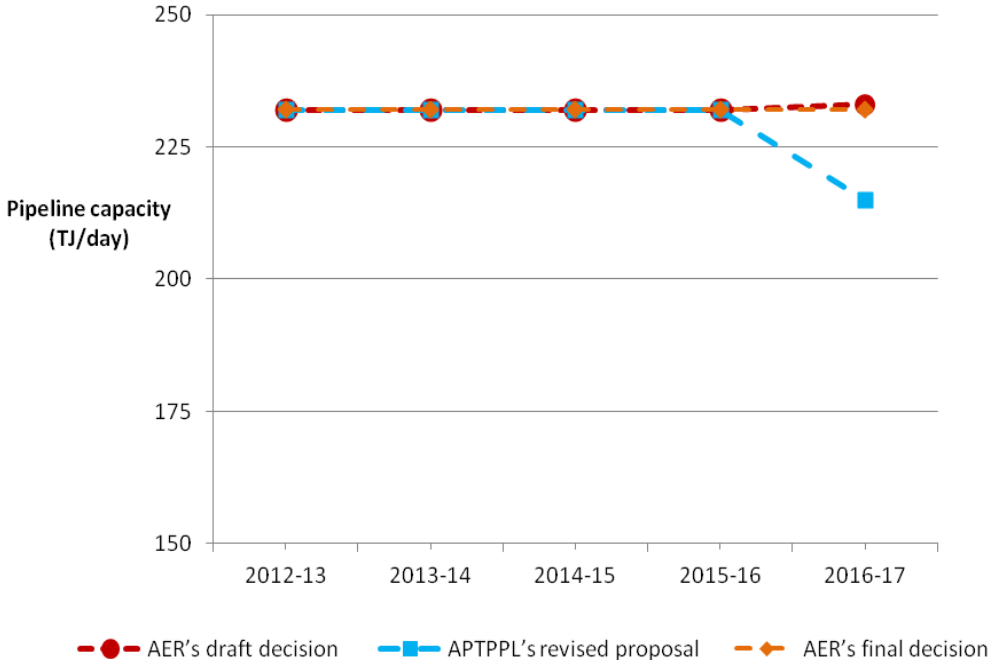
- capacity of 4 TJ/day will not be utilised during the access arrangement period and that a further 7 TJ/day will not be utilised in 2016–17.
- a particular load (17 TJ/day), located towards the western end of the pipeline will cease taking service in 2016–17, and will therefore not be utilised.

[71] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

The AER is cognisant of APTPPL's reasons for these forecasts, including that they are based largely on whether APTPPL has firm contracts in place for the transport of gas. However, the AER is not satisfied that APTPPL's forecasts represent the best forecast possible in the circumstances. The AER considers that some of the capacity forecast as being available in the last two years of the access arrangement period will be utilised.

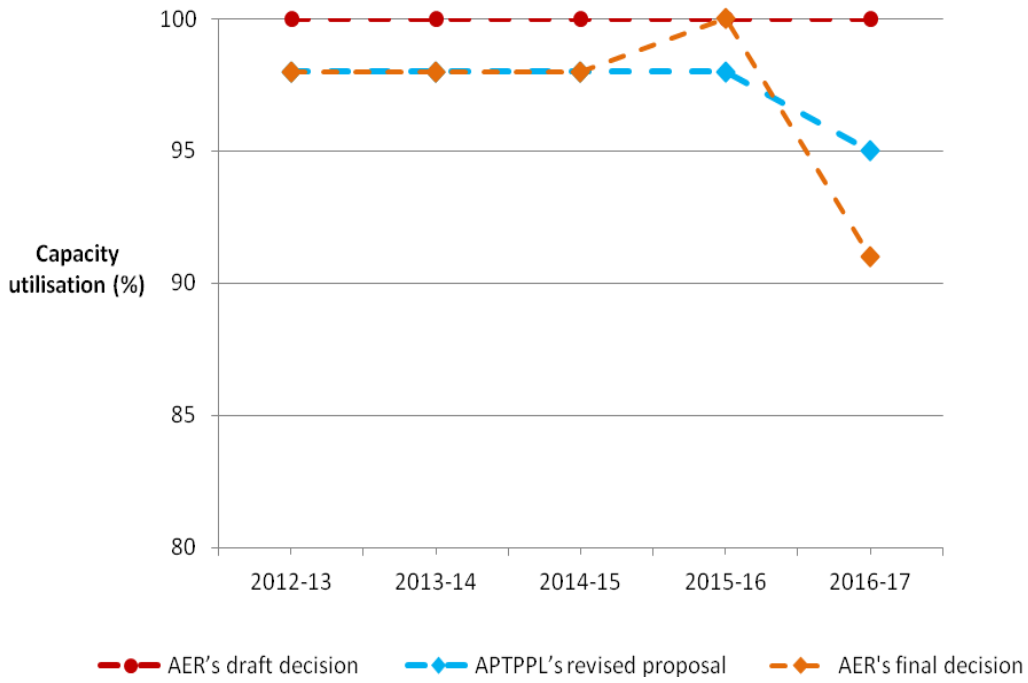
The AER's final decision on APTPPL's capacity utilisation forecasts is summarised in figure 9.2 below.

Figure 9.1 Capacity forecasts



Source: *AER's draft decision*, p. 16; APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.

Figure 9.2 Capacity utilisation forecasts



Source: APTPPL, *Access arrangement information*, October 2011, p. 11; *AER's draft decision*, p. 16; APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.

9.2 Summary of analysis and reasons

APTPPL's revised pipeline capacity and capacity utilisation forecasts result in less than 100 percent capacity utilisation of the pipeline. The following sections explain the AER's decision on APTPPL's pipeline capacity and capacity utilisation forecasts.

9.2.1 Forecasts of lower pipeline capacity in 2016–17

APTPPL's revised forecasts indicate that the pipeline capacity of the RBP will fall from 232 TJ/day to 215TJ/day in 2016–17. This is because APTPPL has forecast that a load located towards the western end of the pipeline will not be taken up by another user. Due to the nature of pipeline dynamics, APTPPL indicated that there will not be any capacity 'freed up' for other users to take supply at other points along the pipeline. [72]

The AER does not approve APTPPL's revised forecast of pipeline capacity in 2016-17 as it is based on the particular locations of the supply and load of gas.

The RBP presently has the capacity to supply 232TJ/day (following completion of the RBP8 expansion project). Accordingly, the AER considers that forecasts of pipeline capacity for the RBP should include the 17 TJ/day of capacity located towards the western end of the pipeline

[72] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

as this is an intrinsic part of the pipeline. The RBP will remain capable of supplying a user (existing or potential) at the western end of the pipeline, even if that capacity may not be contracted. Accordingly, the AER's final decision is to not approve APTPPL's revised 2016–17 forecast of total RBP pipeline capacity of 215 TJ/day.

9.2.2 Forecasts of available capacity (capacity utilisation) on the RBP

APTPPL submitted forecasts for capacity utilisation based largely on whether it has firm contracts in place for the transport of gas. Where a contract is due to expire during the access arrangement period, APTPPL assumed in its revised access arrangement submission that it will not be renewed. In particular, APTPPL submitted that there is capacity on the RBP that will not be taken up through shipper contracts. This capacity includes:

- 4 TJ/day of capacity are not contracted over the access arrangement period
- an additional 7 TJ/day of capacity becoming available in 2016–17
- 17 TJ/day, located towards the western end of the pipeline, that APTPPL forecasts will cease taking service upon contract expiry in 2016–17. [73]

The AER takes the view that a reasonable forecast of capacity utilisation should take into account whether there are any potential users on the existing capacity queue who have recorded an interest in seeking gas haulage contracts with APTPPL when allocations become available. The AER therefore conducted further investigations in order to forecast the likelihood of contract renewal by users. The AER's investigations (including market inquiries) and assessment approach are outlined in detail in attachment 6 of this final decision. In summary, the AER compared user contract information with information about the existing and developable capacity queues to gauge whether or not a user, upon the expiry of its contract, is likely to recontract its existing capacity.

The AER accepts that there will be available capacity on the RBP that will not be taken up through shipper contracts. However, the AER does not approve APTPPL's revised capacity utilisation forecasts because the AER is not satisfied that APTPPL's forecasts represents the best forecasts possible in the circumstances. The AER's investigations indicated that a number of users are likely to recontract to transport the same amount of gas that is coming off contract. This information supported the AER's view that at least some of the available capacity will be fulfilled by users on the existing capacity queue for the last two years of the access arrangement period.

Consistent with its assessment approach, the AER used information gathered through its market inquiries to arrive at its own forecasts of the total capacity contracted. The AER's forecasts are set out in table 9.1.

[73] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

Table 9.1 AER final decision on APTPPL's capacity and capacity utilisation forecasts

	2012–13 (forecast)	2013–14 (forecast)	2014–15 (forecast)	2015–16 (forecast)	2016–17 (forecast)
Total pipeline capacity subject to the access arrangement (TJ/day)					
APTPPL's revised proposal	232.0	232.0	232.0	232.0	215.0
AER final decision	232.0	232.0	232.0	232.0	232.0
Total capacity contracted (TJ/day)					
APTPPL's revised proposal	226.7	228.3	228.3	228.3	204.3
AER final decision	227.0	228.0	228.0	230.9	209.9

Source: AER analysis

The AER's proposed revisions to APTPPL's revised forecasts of total capacity contracted will reduce the proposed reference tariffs. The AER's decision on the pipeline capacity, however, does not impact on the total revenue for the RBP in 2016–17 or on the proposed reference tariffs. This is because the RBP capacity tariff is calculated using the forecast of total capacity contracted, rather than total pipeline capacity.

9.2.3 Forecast take-up of 17TJ/day of capacity in 2016–17

The AER approves APTPPL's forecast that a particular load (17 TJ/day), located towards the western end of the pipeline is expected to cease taking service in 2016–17. The AER's consideration of this matter is set out in the confidential appendix D.

The AER is satisfied that APTPPL's forecast of this load is arrived at on a reasonable basis and represents the best forecasts possible in the circumstances.

10 Tariff setting – transmission pipelines

An access arrangement is required to set out how a service provider intends to charge for reference services. The NGR requires that the access arrangement information must include an explanation of the basis for setting reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs.[74]

APTPPL proposed a flat 'postage stamp' capacity charge and a capacity based tariff for its nominated reference service. It proposed a capacity tariff of $0.5922 per GJ of MDQ/Day, and a throughput tariff of $0.0396 per GJ.[75] APTPPL proposed changes to other charges and rates as outlined in the draft decision.[76]

The AER is required to assess APTPPL's proposed reference tariffs against the provisions established by r. 95 of the NGR, and the revenue and pricing principles and the NGO, both established by the NGL. The AER's role includes an assessment of APTPPL's proposed reference services to which the reference tariff applies.

The AER's detailed reasons for its decision on tariff setting are provided in attachment 7.

10.1 Final decision

The AER accepts the general methodology proposed by APTPPL for calculating a reference tariff. In particular, the AER accepts the concept of a single reference tariff with components for capacity and throughput. The AER considers that the proposed tariff structure is consistent with r. 95 of the NGR.

A reference tariff must be set for each reference service and, in calculating the tariff, must generate the portion of total revenue referable to the reference service. The AER accepts APTPPL's nominated reference service where all capital and operating costs, and all volumes, are included in the calculation of the reference tariff.

The AER approves APTPPL's proposed increase in other charges and rates as outlined in attachment 1 of the draft decision.

However, the AER does not approve the amount of the reference tariff calculated by APTPPL as it does not reflect the building block components as discussed in this final decision. The AER's proposed reference tariff is set out in revision 7.1. The proposed reference tariff takes into account the relevant components of the final decision,

10.2 Summary of analysis and reasons

The AER accepts the tariff structure proposed by APTPPL, given the need to send appropriate pricing signals, to facilitate short term capacity trading and to maximise pipeline utilisation.

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74 NGR, rr. 72(1)(j), 95(1) and 95(3)(a).
75 APTPPL, *Revised* access *arrangement proposal*, May 2012*: Schedule 1 Details*, p. 1.
76 AER, *Draft decision*, April 2012, pp. 59–63.

The AER determined a starting tariff that is about 10.6 per cent[77] less than the overall tariff proposed by APTPPL. The tariff includes a capacity reference tariff ($/GJ of MDQ/day) of $0.5289 and a throughput reference tariff ($/GJ) of $0.0354. The reasons for the difference between the APTPPL and AER starting tariff are outlined in Total Revenue section of the overview.

APG[78] and Origin Energy Limited (Origin)[79] made submissions on the reference tariff. APG submitted that the tariffs would increase prices to customers for no change in service provision. Origin in its submission welcomed the AER's draft decision on tariffs and requested that the AER pay particular attention to the costing behind APTPPL's proposed revised reference tariff and its associated price path. The AER is of the view that its final decision on the various elements of the access arrangement are likely to address APG and Origin's concerns with regards to APTPPL's proposed reference tariff and its associated price path. These elements include the return on the projected capital base, depreciation, estimated cost of corporate income tax and forecast operating expenditure.[80]

APG and Origin also expressed concerns relating to the imbalance and daily variance allowances and the increase in the daily variance rate as approved by the AER in the draft decision. The AER considers that the other charges and rates included in the reference tariff are generally intended as penalties to incentivise users to abide by their scheduled gas takings when using the pipeline and, as such, they are not set on a cost–recovery basis.[81] The AER is of the view that the establishment of an appropriate incentive structure for other charges and rates is consistent with the NGO.

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77 Calculated based on APTPPL proposed capacity tariff of $0.5922 and throughput tariff of $0.0396 as at 1 July 2012, (provided in Schedule 1 Details of APTPPL's access arrangement submission) and AER's estimated capacity tariff of $0.5289 and throughput tariff of $0.0354 as at 1 July 2012.

78 APG, *Submission to the AER*, June 2012, pp. 1–7.

79 Origin Energy Limited, *Submission on the AER draft decision for APT Petroleum Pipelines Limited access arrangement proposal 2012–2017,* 25 June 2012, p. 2 (Origin, *Submission to the AER*, June 2012).

80 NGR, r. 76.

81 AER, *Draft decision*, April 2012, pp. 59–63.

11 Tariff variation mechanism

The reference tariff variation mechanism:

- permits building block revenues to be recovered smoothly over the access arrangement period
- accounts for actual inflation
- accommodates other tariff adjustments that may be required, such as for an approved cost pass through event
- sets administrative procedures for the approval of any proposed changes to tariffs.

The AER assessed APTPPL's revised access arrangement proposal against the explicit tariff variation mechanism requirements of the NGL and NGR. The AER's detailed reasons for its decision on the tariff variation mechanism are provided in attachment 8.

11.1 Final decision

In this final decision, the AER:

- does not approve automatic annual reference tariff adjustment in the context of delays to a decision being made by the AER
- approves establishment of a forward looking element to cost pass through
- approves removal from the definition of an insurance cap cost pass through event of the words 'fault or lack of care'
- does not approve APTPPL's carbon cost pass through event, and proposes revisions to the carbon cost pass through event
- does not approve the establishment of an aggregate cost pass through materiality threshold.

11.2 Summary of analysis and reasons

In its draft decision the AER did not approve APTPPL's proposed automatic annual tariff variation formula, forward looking element to cost pass through, or the inclusion of the term 'gross negligence/wilful misconduct' in the insurance cap pass through event definition. APTPPL's revised proposal addressed these matters.

However, APTPPL's revised access arrangement proposal also sought to establish a new cost pass through event related to carbon costs, as well as an aggregated pass through materiality threshold. These are new matters that have not previously been considered by the AER in the context of this access arrangement proposal process.

11.2.1 Annual tariff variation – automatic tariff variation

In its draft decision the AER did not approve APTPPL's proposal to establish an automatic reference tariff adjustment on the next 1 July should the AER's decision on annual tariff variation be delayed. In its revised access arrangement proposal APTPPL maintained its preference for automatic adjustment of reference tariffs as per APTPPL's annual tariff variation application.[82]

The AER does not approve APTPPL's proposed automatic tariff adjustment at the next 1 July should the AER's decision be delayed. This is because APTPPL's proposal is inconsistent with r. 97(4) of the NGR which requires that a tariff variation mechanism must give the AER adequate oversight or powers of approval over reference tariff variations. APTPPL's proposal would also give rise to a risk that tariffs may not be efficient, as the AER may ultimately reject the proposed annual reference tariff variation or approve a different variation.

The AER's final decision, to not approve APTPPL's automatic tariff adjustment, provides for the AER to review and approve annual reference tariff variations before they take effect. The AER's final decision therefore satisfies r. 97(4) of the NGR.

The AER received one submission from APG which referred to tariff variation issues. APG supported the AER's draft decision to not approve APTPPL's proposed automatic tariff adjustment. The AER took APG's submission into account in coming to its final decision.

11.2.2 Forward looking cost pass through

In its draft decision the AER did not approve APTPPL's proposal to permit forward looking cost pass through. In its revised access arrangement proposal APTPPL maintained its preference for forward looking pass through.[83]

The AER's final decision approves APTPPL's proposal to establish a forward looking element to cost pass through. The AER will review any cost pass through proposals and must be satisfied that a proposed forward looking pass through event has already occurred, and that costs are likely to be incurred.

The AER reached this final decision for the following reasons:

- it may reduce administrative costs and align cost recovery with the time period in which costs are incurred
- sufficient safeguards are established to reduce the risk of inefficient tariffs being established.

Forward looking cost pass through has potential to be used in the context of cost elements such as the Clean Energy Legislative Package, which establishes carbon costs for APTPPL. In this specific case APTPPL chose, and the AER accepts, the establishment of an opex allowance instead of using pass through provisions. The AER accepts that should similar

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82 APTPPL, *Revised* access *arrangement submission*, May 2012, p. 59.
83 APTPPL, *Revised* access *arrangement submission*, May 2012, p. 56.

costs arise in future, such a forward looking pass through provision may provide efficiencies, as submitted by APTPPL.

11.2.3 Cost pass through – insurance cap event definition

In its draft decision the AER did not approve APTPPL's proposed insurance cap event definition. APTPPL, in its revised access arrangement proposal, did not accept the AER's draft decision. While APTPPL accepted the substitution of 'negligence' for APTPPL's proposed 'gross negligence/wilful misconduct', it did not accept the AER's draft decision to also incorporate 'fault or lack of care'. APTPPL submitted that these words are relatively poorly defined in law and it was therefore unclear how the AER would reach a decision on whether a pass through event was the result of APTPPL's fault or lack of care.

The AER approves APTPPL's proposed removal of 'fault or lack of care' from the insurance cap definition.

11.2.4 Carbon cost pass through event

In its access arrangement proposal APTPPL raised the issue of carbon costs but submitted that the carbon pricing mechanism was at the time too uncertain to incorporate an opex allowance. As such, APTPPL noted the potential to recover carbon costs through a cost pass through event.

Subsequent to APTPPL's access arrangement proposal being submitted, the *Clean Energy Act 2011* received royal assent in November 2011. The *Clean Energy Act 2011* establishes the basis for APTPPL's carbon unit liability.

In its revised access arrangement proposal, submitted in May 2012, APTPPL included an opex allowance for carbon costs.[84] Linked to its proposed opex allowance was a 'true–up' mechanism to adjust reference tariffs for actual costs compared to forecast costs. As part of its true–up mechanism, APTPPL included a 'Carbon cost event' as one of its cost pass through events.[85] This pass-through event would allow APTPPL to pass through higher or lower carbon costs for each year of the access arrangement. The true–up mechanism proposed by APTPPL incorporates two steps:

- a first reference tariff adjustment in the regulatory year after costs are incurred
- a second adjustment in the second year after costs are incurred.

APTPPL's two stage true–up process is driven by the timing of carbon unit acquittal under the framework established by the Clean Energy Legislative Package. Liable entities may not know their final actual carbon unit costs until up to eight months after the end of the regulatory year to which they relate. As proposed by APTPPL, the first true–up would be undertaken using largely estimated carbon costs. The second proposed true–up would be undertaken using actual carbon costs. The second proposed true–up would only be necessary because the first would be undertaken using estimated costs.

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84 See attachment 3 (opex) of this final decision for a discussion of this issue.

85 APTPPL, *Revised* a*ccess arrangement proposal* (marked–up), May 2012, p. 16 – 'Carbon cost event'.

In this final decision the AER approves APTPPL's proposed carbon cost opex allowance.[86] However, the AER does not approve APTPPL's proposed two stage carbon cost true–up mechanism. The AER considers that a single true–up, undertaken when full actual carbon costs for a regulatory year are known, reduces complexity and is preferred to the proposed two stage true–up.

The AER notes that under APTPPL's proposed carbon cost pass through event, any over or under recovery of carbon costs will be adjusted for in terms of changes to reference tariffs. In the event that APTPPL's annual actual carbon costs are higher than the opex allowance for a particular year, APTPPL will be able to pass through the additional cost.

In the event that APTPPL's actual carbon costs are lower than the opex allowance, the AER considers it appropriate to make it mandatory for APTPPL to submit a cost pass through event application. The AER requires the access arrangement to be revised to indicate that the Service Provider must seek a negative cost pass through should actual carbon costs be lower than the annual opex allowance in a given year.

The AER's revision requires the cost pass-through provision to be modified to indicate that the Service Provider must seek a negative cost pass through in the event that a negative carbon cost pass through event occurs.

The AER also requires that the carbon cost event definition be revised to specify that a single true–up will occur only when actual carbon cost data can be used for that true-up, precluding the use of estimates. In this regard, the AER's proposed revision is that a single carbon cost true–up take place in the second year after the year carbon costs are incurred.

11.2.5 Aggregated cost pass through materiality threshold

APTPPL's access arrangement proposal included a one per cent smoothed approved revenue materiality threshold to apply to individual cost pass through events. The AER approved this approach to the materiality threshold in its draft decision. In its revised access arrangement proposal, APTPPL proposes to vary the cost pass through materiality threshold so that it applies in aggregate, rather than to each pass through event separately.

The AER considers that r. 60 of the NGR limits the amendments that APTPPL can make to its access arrangement proposal to those necessary to address matters raised in the AER's draft decision, unless the AER approves further amendments. In its draft decision the AER did not raise concerns over the application of the one per cent materiality threshold that had been initially proposed by APTPPL.

In any case, the AER does not approve APTPPL's proposed amendment to the materiality threshold. The AER is of the view that a balance is currently achieved between service provider cost recovery, administrative costs and business risks under the materiality threshold as originally proposed. The AER considers that the initial proposed materiality threshold is well established in practice in regulatory decision-making and is consistent with the revenue and pricing principles.

12 Non-tariff components

Non-tariff components refer to the terms and conditions that are not directly related to the nature and level of tariffs paid by users, but which are important to the relationship between the network service provider and users.

The AER has considered the non-tariff components of APTPPL's revised access arrangement proposal including capacity trading requirements,[87] queuing requirements,[88] extension and expansion requirements, and terms and conditions on which the reference service will be provided.

The AER reasons for its final decision on the above non-tariff components is provided in attachment 9, queuing requirements in attachment 10, terms and conditions in appendix A.

12.1 Final decision

The AER's final decision approves the majority of non-tariff terms included in APTPPL's revised access arrangement proposal. However, the AER proposes revisions to be made to certain non-tariff terms relating to:

- capacity trading requirements
- queuing requirements
- definitions and terms and conditions for providing the reference service.

12.2 Summary of analysis and reasons

12.2.1 Extension and expansion requirements

In its draft decision the AER did not approve APTPPL's proposal that extensions and expansions be excluded from regulatory coverage through the application of a fixed principle. APTPPL's revised access arrangement proposal adopted the AER's draft decision amendment B.1 in relation to extension and expansion requirements.[89]

The AER received a further submission from TRUenergy in response to its draft decision regarding the extension and expansion requirements.[90] TRUenergy requested that the AER grant APTPPL permission to include a fixed principle in clause 7.4 of the access arrangement. TRUenergy's submission also asked the AER to reconsider TRUenergy's proposal that the AER and APTPPL should determine reasonable technical and operating standards for the construction of an extension.[91]

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87 NGR, r. 105.
88 NGR, r. 103.
89 APTPPL, *Revised access arrangement submission*, May 2012, p. 70.
90 TRUenergy, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal*, dated 27 June 2012, pp. 2–3. (TRUenergy, *Submission to the AER*, June 2012).
91 TRUenergy, *Submission to the AER*, June 2012, p. 3.

The AER considers the approach it has taken in the draft decision to fixed principles is consistent with the NGR and NGO. Having carefully considered the issues, the AER does not approve the inclusion of a fixed principle because the AER considers it is sufficient to allow developable capacity to be offered as a negotiated service during the applicable access arrangement period in which the extension or expansion is undertaken.[92] That provides an opportunity for contractual negotiations underpinning the extension or expansion to be entered into to ensure its viability. Further, for the reasons discussed in section B.4 of the draft decision, the AER considers that generally pipeline services provided over an expansion should be covered by the access arrangement when the next regulatory period commences.

In addition, in relation to technical and operating standards, the AER notes that the NGL and NGR allow service providers and users to negotiate an extension based upon mutually agreeable terms and conditions. The AER considers this is the best mechanism at present for developing reasonable technical and operating standards that would apply to the construction of an extension.[93]

The AER's final decision is to approve ATPPL's extension and expansion requirements in its revised access arrangement proposal. Detailed reasons for this decision are provided in attachment 9.[94]

12.2.2 Commencement and review dates

APTPPL, in its revised regulatory proposal, adopted the AER's draft decision on commencement and review dates and made revisions to the access arrangement as required by the AER's draft decision amendments 11.3 and 11.4.[95]

12.2.3 Capacity trading requirements

The AER's draft decision did not approve APTPPL's capacity trading requirement terms, and required a revision to be made to define the term 'reasonable commercial and technical grounds'. APTPPL's revised access arrangement proposal adopted the AER's amendment to define the term 'reasonable commercial and technical grounds', with minor amendments for consistency and drafting style.

The AER has noticed a minor typographical error in APTPPL's proposed capacity trading requirement terms. The AER's final decision is therefore to reject APTPPL's capacity trading requirement terms, and propose that the relevant clause be revised to correct the typographical error.

12.2.4 Queuing requirements

The AER does not approve APTPPL's proposed queuing requirements. The AER requires that the revised queuing requirements be replaced with its preferable alternative.

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92 As stated in the draft decision this provides an opportunity for contractual negotiations underpinning the extension or expansion to be entered into to ensure its viability. For a further discussion of the issues also refer to the pipeline services attachment 3 in the draft decision.

93 AER, *Draft decision*, April 2012, pp. 290–291.

94 AER, *Draft decision*, April 2012, pp. 283–291.

95 APTPPL, *Revised access arrangement submission*, May 2012, pp. 71–72.

In its revised access arrangement proposal APTPPL proposed a first-come-first-served approach involving a deposit for the existing capacity queue, and an open season approach without a queue for developable capacity.

To inform its final decision on APTPPL's revised queuing requirements, the AER undertook additional stakeholder consultation. Cooperatively with APTPPL, the AER facilitated two industry teleconferences on queuing requirements in July 2012. Representatives from several major RBP users attended.

The AER accepts the use of a deposit mechanism for existing capacity, and an open season for developable capacity. However, the AER concludes that elements of APTPPL's revised queuing requirements do not comply with the requirements and objectives of the NGL and NGR. The AER is of the view that its alternative is preferable to APTPPL's revised proposal as it satisfies the NGL and the NGR, and is more likely to promote efficient outcomes in accordance with the NGO and the revenue and pricing principles.[96]

12.2.5 Definitions and terms and conditions for providing the reference service

APTPPL adopted the AER's required revisions A.1, A.12 and A.13 in its revised access arrangement proposal. The AER's final decision is to approve these amendments in the revised access arrangement proposal.

APTPPL rejected a number of the AER's required revisions. The AER also received a submission from APG[97] on particular non-tariff terms that the AER had approved in its draft decision.

The AER's assessment of those terms and conditions which APTPPL rejected, as well as those terms and conditions that APG made submissions are set out in detail in attachment 9 and appendix A.

The AER does not approve certain revisions proposed by APTPPL. As set out in appendix A, the AER considers that revisions are required in order to better promote the NGO.

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96 NGL, ss. 23 and 24.

97 APG, *Submission to the AER*, June 2012, pp. 1–7.

Part B: Attachments

1 Capital base

This attachment sets out the AER's final decision, reasoning and approach to assessing APTPPL's proposed capital base for the access arrangement period.

The capital base of a gas transmission pipeline is the capital value attributed to pipeline assets.[98] The AER must assess APTPPL's proposed capital base by taking into account:

- the opening capital base
- any proposed adjustments to the opening capital base
- the projected capital base
- any proposed adjustments to the projected capital base.

1.1 Final decision

The AER does not approve APTPPL's opening capital base of $427.5 million ($nominal) as at 1 July 2012. The AER approves APTPPL's proposed growth capex on the Lytton Lateral and RBP8 expansion project in the earlier access arrangement as set out in its revised access arrangement proposal. However, the AER requires an adjustment to APTPPL's estimated capex relating to the buyout of the PMA contract. The AER approves a lower amount of conforming capex than that proposed by APTPPL. This is due to a lower amount of capex relating to the early termination of the PMA being approved as conforming capex. Table 1.1 summarises the proposed amendments on APTPPL's opening capital base. After making these adjustments, the AER calculated an opening capital base on 1 July 2012 of $417.6 million ($nominal), $9.9 million less than that proposed by APTPPL, as set out in table 1.1.

APTPPL has forecast $18.3 million ($2011–12) of capex over the access arrangement period for 1 July 2012 to 30 June 2017. This is consistent with the AER's draft decision position and therefore the AER does not require any further amendments to forecast capex. Taking account of changes to the opening capital base, the AER has calculated a closing capital base on 30 June 2017 of $405.1 million ($nominal) as set out in table 1.3 below.

[98] NGR, r. 69.

Table 1.1 summarises the AER's final decision on APTPPL's opening capital base in the earlier access arrangement period.

Table 1.1 AER approved opening capital base ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Opening capital base	296.4	300.2	335.2	339.5	346.5	362.7
Plus capex[a]	2.7	28.7	2.8	4.3	12.4	57.2
Plus speculative capital	0.0	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less depreciation	(6.0)	(6.5)	(6.8)	(7.1)	(7.7)	(8.0)
Plus indexation	7.2	12.7	8.3	9.8	11.5	5.7
Less redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0	0.0
Closing capital base	300.2	335.2	339.5	346.5	362.7	417.6

Source: AER analysis.
(a) Based on 'as-commissioned' capex and includes a half WACC allowance to compensate for the average six month period before capex is added to the capital base for revenue modelling purposes.

Table 1.2 summarises the AER's final decision on APTPPL's capex in the earlier access arrangement period.

Table 1.2 AER approved capital expenditure by asset class over the earlier access arrangement period ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Stay in business	2.5	27.4	2.7	4.1	2.3	3.4
Pipelines and compressors	0.1	0.0	0.0	0.0	9.5	51.9
Total capex	2.6	27.4	2.7	4.1	11.8	55.3

Source: AER analysis.
Note: Based on 'as-commissioned' capex.

Table 1.3 summarises the AER's final decision on APTPPL's projected capital base for the access arrangement period.

Table 1.3 AER approved forecast closing capital base ($m nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17
Opening capital base	417.6	417.1	415.9	412.1	408.6
Plus capex[a]	4.2	4.8	3.7	4.0	3.5
Plus speculative capital	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0
Less depreciation[b]	(15.4)	(16.7)	(18.1)	(18.0)	(17.3)
Plus indexation	10.7	10.6	10.6	10.5	10.4
Less redundant assets	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0
Closing capital base	417.1	415.9	412.1	408.6	405.1

Source: AER analysis.
(a) Based on 'as-incurred' capex.
(b) Based on 'as-commissioned' capex.

1.2 Assessment approach

The AER has not changed its assessment approach for capital base since its draft decision, so it is not repeated here. See attachment 8 and appendix D of the draft decision for this detail.[99]

1.3 Reasons for decision

The AER does not approve the proposed $30.1 million ($nominal) capex associated with the PMA contract buyout in APTPPL's opening capital base. The AER considers that the proposed expenditure is not conforming capex for the purposes of r. 79 of the NGR. However, the AER considers that $24. 8 million ($nominal) satisfies the requirements of rr. 79(1)(a) and (2)(a) of the NGR. The AER proposes to add $24.8 million ($nominal) into APTPPL's capital base in 2007–08.[100]

1.3.1 Opening capital base

The AER does not approve the opening capital base as proposed by APTPPL. The AER is satisfied that the proposed treatment of IT expenditure is consistent with the AER's draft decision however the AER does not consider that APTPPL has sufficiently addressed the concerns set out in the draft decision relating to the PMA contract buyout.

As a result, the AER requires APTPPL to amend its revised access arrangement proposal as set out in revision 1.1. These revisions result in the removal of $9.9 million ($nominal) from APTPPL's

99 AER, *Draft decision*, April 2012, pp. 182–185, 357–358.
100 This amount will be depreciated over the earlier access arrangement period and have a value of $19.03 million ($nominal) as at 2011–12. This is discussed in attachment 4 of the final decision.

opening capital base at 1 July 2012. Reasoning for the AER's changes to the opening capital base are discussed below.

Capital expenditure in the earlier access arrangement period

PMA contract buyout

The AER does not approve the proposed $30.1 million ($nominal) capex associated with the PMA contract buyout in APTPPL's opening capital base. The AER considers that not all of the proposed expenditure is conforming capex for the purposes of r. 79 of the NGR. The AER proposes to add $24.8 million ($nominal) into APTPPL's capital base for the PMA buyout as set out in revision 1.2. This is discussed in detail in appendix C of the final decision.

Growth capex

The AER approves APTPPL's growth capex associated with the Lytton Lateral and RBP8 expansion project as set out in its revised access arrangement proposal. The AER is satisfied that the costs proposed by APTPPL represent the most cost effective option available. Therefore the AER approves the capex associated with the Lytton Lateral extension.

Non-systems expenditure

In its draft decision, the AER did not approve APTPPL's proposed IT expenditure. The AER was concerned that there was potential for double counting in the recovery of APTPPL's non-system capex costs if APTPPL was able to recover its MOS allocation service costs from AEMO as an STTM pipeline operator. In its revised access arrangement proposal, APTPPL has taken into account of the draft decision and removed these costs from its capital base. The AER therefore approves APTPPL's revised non-systems capex.

Adjustment to the capital base for inflation in the earlier access arrangement period.

APTPPL's revised access arrangement proposal adjusted the capital base using actual inflation based on the CPI consistent with that proposed in the access arrangement proposal. For 2011–12, APTPPL proposed a forecast inflation rate of 2.50 per cent. The AER has updated the forecast inflation for 2011–12 for actual inflation consistent with APTPPL's annual tariff variation mechanism. That is, the CPI measured as the weighted average eight capital cities for March to March. The CPI annual measure for 2011–12 March to March was 1.58 per cent.[101]

Depreciation used in the earlier access arrangement period

The AER does not accept the depreciation amount used to roll forward the capital base submitted by APTPPL. The AER considers APTPPL's proposed roll forward model (RFM) does not reflect the depreciation allowance approved by the ACCC, due to the update for actual inflation for 2011–12. As discussed above, the AER has updated the capital base roll forward with actual inflation for 2011–12. The updated inflation affects the calculation of regulatory depreciation in the final year of the earlier access arrangement period. The AER considers this results in depreciation updated for inflation over the earlier access arrangement to be consistent with r. 77(2)(d) of the NGR.

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[101] ABS, *6401–Consumer price index–Australia*, Mar 2012, http://www.abs.gov.au/ausstats/abs@.nsf/mf/6401.0, viewed on 29 June 2012.

In the draft decision, the AER approved APTPPL's method to adjust the actual depreciation in the RFM, to replicate the ACCC's approved forecast depreciation from 2007.[102] The method applied in APTPPL's revised access arrangement proposal is the same as that approved in the draft decision. However, as discussed above, the AER does not approve APTPPL's proposed capex over the earlier access arrangement period. The AER has updated the adjustment to depreciation in the RFM to reflect these changes.

The AER's adjustment to APTPPL's depreciation calculation in the RFM results in the depreciation allowance approved by the ACCC. The AER considers this establishes the opening capital base as at 1 July 2012, using the depreciation approved over the earlier access arrangement period to be consistent with the r. 77(2)(d) of the NGR. Table 1.4 sets out APTPPL's proposed depreciation over the earlier access arrangement period.

Table 1.4 APTPPL adjustment of actual to forecast depreciation over the earlier access arrangement period ($ million, 2005–06).

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Actual depreciation	6.41	6.79	9.33	9.79	10.55	11.08
Forecast depreciation approved by ACCC	5.84	6.12	6.20	6.32	6.62	6.70
Adjustment	0.56	0.66	3.14	3.47	3.93	4.38

Source: AER analysis.

1.3.2 Projected capital base

The AER is satisfied that the proposed forecast capex over the access arrangement period is consistent with APTPPL's access arrangement proposal which was accepted in the draft decision. The AER only requires consequential amendments to the proposed closing capital base as a result of changes to the proposed opening capital base. These amendments are set out in revision 1.3.

1.4 Calculation of the opening capital base at the next access arrangement period

The AER proposes $417.6 million ($nominal) as APTPPL's opening capital base as at 1 July 2017. The opening capital base at the commencement of the next access arrangement period will be subject to adjustments under r. 77(2) of the NGR. These adjustments are not limited to, but include the difference between actual and forecast capex, actual inflation, and depreciation.

In the draft decision, the AER accepted APTPPL's proposal to use forecast depreciation for the purposes of establishing APTPPL's opening capital base as at 1 July 2017.[103] The AER's final decision forecasts an opening capital base at 1 July 2017 is based on an inflation forecast of 2.55 per cent per annum over the period from access arrangement period from 1 July 2012 to 1 July 2017.

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102 AER, *Draft decision*, April 2012, p. 180.

103 APTPPL, *Access arrangement proposal*, October 2011, p. 12.

1.5 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 1.1:

Amend the revised access arrangement and access arrangement information to delete table 3.1 and replace it with the following:

Table 1.5 Opening capital base ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Opening capital base	296.4	300.2	335.2	339.5	346.5	362.7
Plus capex	2.7	28.7	2.8	4.3	12.4	57.2
Plus speculative capital	0.0	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less depreciation	(6.0)	(6.5)	(6.8)	(7.1)	(7.7)	(8.0)
Plus indexation	7.2	12.7	8.3	9.8	11.5	5.7
Less redundant assets	0.0	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0	0.0
Closing capital base	300.2	335.2	339.5	346.5	362.7	417.6

Revision 1.2:

Amend the revised access arrangement information to delete table 3.2 and replace it with the following, and make all other necessary changes so as to be consistent with the following:

Table 1.6 Capital expenditure by asset class over the earlier access arrangement period ($m nominal)

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Stay in business	2.5	27.4	2.7	4.1	2.3	3.4
Pipelines and compressors	0.1	0.0	0.0	0.0	9.5	51.9
Total capex	2.6	27.4	2.7	4.1	11.8	55.3

Revision 1.3:

Amend the revised access arrangement information to delete table 3.8 and replace it with the following, and make all other necessary changes so as to be consistent with the following:

Table 1.7 Projected capital base for the access arrangement period ($m nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17
Opening capital base	417.6	417.1	415.9	412.1	408.6
Plus capex	4.2	4.8	3.7	4.0	3.5
Plus speculative capital	0.0	0.0	0.0	0.0	0.0
Plus reused redundant assets	0.0	0.0	0.0	0.0	0.0
Less depreciation	(15.4)	(16.7)	(18.1)	(18.0)	(17.3)
Plus indexation	10.7	10.6	10.6	10.5	10.4
Less redundant assets	0.0	0.0	0.0	0.0	0.0
Less disposals	0.0	0.0	0.0	0.0	0.0
Closing capital base	417.1	415.9	412.1	408.6	405.1

2 Rate of return

The rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.

APTPPL's return on capital building block is calculated by multiplying the rate of return with the value of APTPPL's capital base. Consistent with APTPPL's proposal and previous AER gas decisions, the rate of return adopted by the AER is the nominal vanilla WACC formulation.

2.1 Final decision

The AER's final decision does not approve APTPPL's proposed rate of return of 8.79 per cent (nominal vanilla).[104] The AER does not approve APTPPL's proposed rate of return as, in the AER's opinion, 7.31 per cent is a preferable alternative that is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. The AER considers that this rate provides APTPPL with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects APTPPL will be able to attract funds in order to invest in its pipeline services in the long run interests of both APTPPL and consumers.

Consistent with the draft decision, the AER agrees with a number of aspects of APTPPL's proposed rate of return in its revised access arrangement proposal. Specifically, the AER agrees with:

- adopting the CAPM to calculate the cost of equity
- adopting the yield on 10 year CGS as the proxy for the risk free rate
- specifying the cost of debt as the DRP over the risk free rate
- determining the DRP by defining the benchmark bond as a 10 year corporate bond with a BBB+ credit rating and measuring the benchmark bond rate using the extrapolated Bloomberg BBB rated 7 year fair value curve (FVC)
- the method of extrapolating the Bloomberg BBB rated 7 year FVC to a 10 year maturity (consistent with the definition of the benchmark bond) using historical Bloomberg FVCs
- determining the risk free rate and DRP using data averaged over the 20 business day period from 25 June to 20 July 2012.

Also consistent with the draft decision, the AER does not agree with the following aspects of APTPPL's revised access arrangement proposal:

- the value for the market risk premium—the AER adopts a 6 per cent MRP instead of APTPPL's revised proposal of 8.5 per cent

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[104] APTPPL's revised proposed indicative rate of return has been updated to reflect the risk free rate and debt risk premium calculated based upon the agreed averaging period. APTPPL's indicative rate of return was 9.81 per cent. APTPPL, *Revised access arrangement submission*, May 2012, p. 44.

- the value for the equity beta—the AER adopts a 0.8 equity beta instead of APTPPL's proposal of 1.0.

The individual WACC parameters and consequent overall rate of return determined by the AER are set out in Table 2.1.

Table 2.1 AER's final decision on APTPPL's rate of return (nominal)

Parameter	AER draft decision [a]	APTPPL revised proposal [a]	AER final decision
Nominal risk free rate	2.95%	2.95%	2.95%
Equity beta	0.8	1.0	0.8
Market risk premium	6.0%	8.5%	6.0%
Debt risk premium	4.06%	4.06%	4.06%
Gearing level	60%	60%	60%
Inflation forecast	2.55%	2.55%	2.55%
Gamma	0.25	0.25	0.25
Nominal post-tax cost of equity	7.75%	11.45%	7.75%
Nominal pre-tax cost of debt	7.01%	7.01%	7.01%
Nominal vanilla WACC	7.31%	8.79%	7.31%

Source: AER, *Draft decision*, April 2012; APTPPL, *Revised access arrangement proposal*, May 2012 and AER analysis.

a The AER draft decision and APTPPL revised access arrangement proposal parameters have been updated to reflect the final averaging period, based on the respective methodologies. The parameters published in the draft decision and revised access arrangement proposal were calculated by using indicative averaging periods and hence may differ from those in the table above.

The rate of return in this decision for APTPPL is lower than the rate of return determined by the AER in previous decisions. The fact that the overall rate of return in this decision is lower than in previous decisions does not of itself make it unreasonable. The cost of debt in this decision makes up 60 per cent of the overall rate of return. The AER and APTPPL agree on the approach to determining the cost of debt. The cost of debt has fallen by approximately one per cent compared with recent AER decisions.[105] Hence, the AER and APTPPL agree that this reduction reflects prevailing conditions in the market for funds and the risks involved in providing reference services. This provides the AER with a degree of confidence that a fall in the overall rate of return, in itself, is not unreasonable.

APTPPL's concerns surround the cost of equity and the extent to which the cost of equity determined by the AER in this decision is lower than that determined in previous decisions. A lower cost of equity contributes to a lower overall rate of return.

The two points of disagreement between the AER and APTPPL on the cost of equity are over the appropriate values for the MRP and equity beta.

105 AER, *Final decision: Aurora distribution determination*, April 2012, p. 29.

APTPPL's revised access arrangement proposal lists a third point of disagreement between it and the AER. APTPPL described this third point of disagreement as:

> The application of the Capital Asset Pricing Model using a long term average market risk premium with a currently observed risk free rate.[106]

This is a mischaracterisation of the AER's draft decision. Both in the draft decision and this final decision the AER estimates a 10 year forward looking risk free rate and a 10 year forward looking MRP.

The AER acknowledges that APTPPL was concerned with the impact of the lower risk free rate on its overall rate of return and that this was a driving factor in APTPPL proposing a higher MRP. The AER and APTPPL agree on the methodology for estimating the risk free rate. It is the value of the MRP that is in disagreement. Accordingly, the AER has addressed APTPPL's concerns as part of its estimation of the MRP.

2.2 Assessment approach

The AER's assessment approach for this final decision is consistent with that adopted in the draft decision. This material is not reprinted here; see section 7.3 of attachment 7 – Rate of Return of the draft decision for this detail.[107] The section below sets out the AER's further observations on its assessment approach, including discussion of material arising subsequent to the draft decision.

2.2.1 Requirements of the law and rules relevant to the rate of return

The draft decision sets out the relevant legislative requirements that guide the AER's assessment approach, and most of this material is not repeated here.[108]

Rule 87 of the NGR states:

> 1) The rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.
>
> 2) In determining a rate of return on capital:
>
> a) it will be assumed that the service provider:
>
> i) meets benchmark levels of efficiency; and
>
> ii) uses a financing structure that meets benchmark standards as to gearing and other financial parameters for a going concern and reflects in other respects best practice; and
>
> b) a well accepted approach that incorporates the cost of equity and debt, such as the Weighted Average Cost of Capital, is to be used; and a well accepted financial model, such as the Capital Asset Pricing Model, is to be used.

The AER understands the operation of r. 87 of the NGR as the following:

- Rule 87(1) describes the objective in determining the WACC but provides no guidance on how the objective is to be achieved.

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106 APTPPL, *Revised access arrangement submission*, May 2012, p. 38.
107 AER, *Draft decision*, April 2012, pp. 124–130.
108 AER, *Draft decision*, April 2012, pp. 124–126.

- Rule 87(2) describes how the objective is to be achieved; including through a well accepted approach, such as the WACC, and through a well accepted financial model, such as the CAPM.

- Rule 87(1) informs the selection of appropriate input parameters to be used in the well accepted approach and well accepted financial model. That is, input parameters must reflect prevailing conditions in the market for funds and the risk involved in providing reference services.

This interpretation is consistent with the Tribunal's position in two recent decisions, for ATCO (formerly WA Gas Networks) and DBNGP.[109] This interpretation is also consistent with the approach taken by the AER in the draft decision and in previous decisions. The AER has applied this approach in making its final decision on rate of return.

2.2.2 Reasonableness check on overall rate of return

In section 2.2.4, the AER sets out its approach to the determination of each parameter within the overall rate of return. In addition, the AER has given appropriate consideration to a reasonableness check on the overall rate of return. This approach is consistent with the draft decision and the material is not repeated here.[110]

Overall, the AER:

- determines reasonable estimates for the input parameters into the CAPM (a well accepted financial model), which in turn feeds into the WACC (a well accepted approach)[111]

- gives limited consideration to the overall WACC estimates, in accordance with the relevant legislation.

2.2.3 Selection of well accepted approach and model

In its access arrangement proposal, APTPPL proposed the WACC approach, weighted 40 per cent to equity and 60 per cent to debt. APTPPL also proposed to calculate:

- the cost of equity using the CAPM, and

- the cost of debt as the summation of the risk free rate and DRP.

In the draft decision the AER approved both APTPPL's approach to determining the rate of return and models to determine the cost of equity and cost of debt. The weighted average cost of capital is a well accepted approach to determining the rate of return. The models proposed by APTPPL to determine the cost of equity and debt are also well accepted.[112]

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109 Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraphs 61-66; see also Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 80–84, 100–103.

110 AER, *Draft decision*, April 2012, p. 126.

111 NGR, r. 87.

112 Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraph 64.

No new information has arisen between the draft decision and now that causes the AER to depart from its position in the draft decision. Therefore, the AER maintains its draft decision position in this final decision.

2.2.4 Approach to the determination of specific parameters

Risk free rate

The AER's assessment approach for this final decision is consistent with that adopted in the draft decision. This material is not repeated here.[113]

Market risk premium

The AER's assessment approach for the MRP is broadly consistent with that outlined in the draft decision. This material is not reprinted here. However, for the final decision, the AER has clarified its MRP assessment approach in a number of areas. This is outlined below.

The AER has accepted the use of the yield on 10 year CGS as the proxy for the risk free rate. To maintain consistency within the CAPM, the AER estimates a 10 year forward looking MRP.

The MRP is the expected return over the risk free rate that investors require to invest in a well diversified portfolio of risky assets. The MRP represents the risk premium that investors who invest in such a portfolio can expect to earn for bearing only non-diversifiable (systematic) risk. The MRP is common to all assets in the economy and is not specific to an individual asset or business.

Whilst the MRP cannot be directly observed, there are a number of methodologies available to inform views about investor expectations at any point in time. These include examining historical excess returns, conducting surveys of the MRP used by practitioners and academics, employing the DGM and using other financial market indicators such as an implied volatility approach. The NGL and NGR do not specify a particular methodology for measuring the MRP.

It is well recognised in academic literature as well as in reports put forward by regulated entities that the available evidence that can be used to estimate the MRP is imprecise and subject to varied interpretation.[114] There is no consensus among experts on either the appropriate methodology or the assumption for different methodologies. In addition, each of these methodologies has strengths and deficiencies. Therefore judgment must be exercised in determining an MRP value for the purposes of determining an appropriate rate of return. This problem was also recognised by the Tribunal, in recent decisions for Envestra, ATCO and DBNGP.[115]

The AER also remains of the view that the MRP should be estimated based on considerations relevant to the MRP. The AER considers maintaining the integrity of each parameter promotes rigour

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113 AER, *Draft decision*, April 2012, p. 127.

114 See for example academic papers by R. Mehra and E. C. Prescott, *The equity premium, A puzzle*, Journal of Monetary Economics, 15, 1985, pp. 145–161; A. Damodaran, *Equity Risk Premiums (ERP), Determinants, Estimation and Implications*, September 2008, p. 1; J. S. Doran, E. I. Ronn and R. S. Goldberg, *A simple model for time-varying expected returns on the S&P 500 Index*, August 2005, pp. 2–3. For an example report from regulated entities see Officer and Bishop, *Market risk premium, a review paper*, August 2008, pp. 3–4.

115 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT*, 11 January 2012, paragraph 146; see also Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012; Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012.

and robustness in the estimation of each parameter. Maintaining integrity in the estimation of each parameter is important, which includes recognising the economic interdependencies between parameters where they exist. Consistent with previous AER decisions, the AER assesses the MRP by considering a range of evidence, assessing the relative strengths and weaknesses of that evidence, and applying its judgement to the evidence before it in determining an appropriate value.

In undertaking this process, the AER has considered the following evidence:

- historical excess returns—These returns represent the additional return that investors could have earned in the past by investing in a diversified portfolio of shares, including appropriate adjustments for any imputation credits earned on this portfolio. Historical excess return estimates are taken into account on the basis that investors' expectations of the forward looking MRP are informed by past experience

- survey based estimates—Surveys of market practitioners and academics provide information on the expected forward looking MRP and their application in practice. The AER acknowledges that survey results need to be treated with caution

- DGM estimates—Cash flow based measures of the MRP generally employ a dividend discount model. One such model is the DGM which values a stock by estimating the next dividend to be paid and then assumes dividends per share will increase in perpetuity by a constant growth rate. By rearranging the equation the implied cost of equity can be derived from the current share price. Replacing individual stock parameters for market parameters implies that the MRP equals the next period's market dividend yield plus expected market growth rate in dividends per share minus the risk free rate.[116] The AER notes that DGM estimates are highly sensitive to input assumptions.

- Other financial market indicators:

    - Implied volatility analysis—This method uses a number of assumptions to infer a required short term rate of return based on option prices in derivative markets, which reflect short term expectations of future prices and volatility. The AER notes this method provides a short term estimate of the MRP and the AER is unaware of any settled method to extrapolate to a longer term.

    - Dividend yields—This method compares dividend yields over time. Dividend yield is calculated for the entire market, using forecast distributions (dividends) for all firms in a broad share market index divided by the total value of those shares. The AER is not aware of a clear relationship between dividend yield and the 10 year forward looking MRP.

    - Credit spreads—Examines the difference in yields between bonds with high (AAA-rated) and low (BBB-rated) credit ratings. The AER notes there is no reliable way to separate out the effect of changes in the MRP from other effects.

- Recent practice among Australian regulators—MRP is an economy wide measure, other regulators in Australia determine the best estimate of MRP under the same CAPM framework.

[116] AER, *Final decision: WACC review*, May 2009, pp. 216–217.

The AER has interpreted the information available taking into account the advantages and limitations of each type of evidence.

The AER's approach to estimating the MRP does not rely on any one type of evidence. Instead, the AER reviews evidence from across all these areas to inform its decision on the appropriate MRP for this final decision. Each of these five areas of evidence informs the AER's assessment of the appropriate forward looking 10 year MRP. The AER's approach involves the exercise of appropriate regulatory judgement in the context of complex and conflicting evidence.

For the reasons set out in section 2.3.2 and appendix B, the AER places limited emphasis on DGM estimates and other financial market indicators in estimating the value of the 10 year forward looking MRP.

Equity beta

The AER's assessment approach for this final decision is consistent with that adopted in the draft decision. This material is not repeated here.[117]

Debt risk premium

The AER's assessment approach for this final decision is consistent with that adopted in the draft decision. This material is not repeated here.[118] APTPPL agreed with that approach in its revised proposal.[119] No submissions from stakeholders were received on this issue in response to the AER's draft decision or APTPPL's revised proposal. Therefore, the AER has followed the approach in the draft decision.

The AER estimates the DRP using:

- an appropriate benchmark
- a method used to estimate the DRP that conforms to these benchmark parameters.

Benchmark

The AER adopts a 10 year Australian corporate bond with a BBB+ credit rating as the benchmark for estimating the DRP. This benchmark assumption has also been adopted by APTPPL.[120]

Method used to estimate the DRP

For this decision, the AER uses the following method to estimate the 10 year DRP:

- the Bloomberg BBB rated FVC to estimate the (base) 7 year DRP
- the last historical spread between the Bloomberg 7 and 10 year AAA rated FVCs, to extrapolate the 7 year DRP estimate to 10 years.

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117 AER, *Draft decision*, April 2012, p. 127.
118 AER, *Draft decision*, April 2012, pp. 128–129
119 APTPPL, *Revised access arrangement submission*, May 2012, pp. 39–40.
120 APTPPL, *Revised access arrangement submission*, May 2012, p. 40.

AER observations on recent Tribunal decisions and bond issuances

In the draft decision, the AER noted previous analysis which showed the extrapolated Bloomberg BBB rated FVC resulted in a DRP higher than that indicated from market evidence, such as observed bond data and independent market commentary.[121] In a draft decision for an earlier regulatory process, the AER had proposed a means of estimating the DRP which made use of market evidence on Australian bond yields.[122] However, before this approach was implemented in a final decision, in January 2012 the Tribunal determined that the AER should have used the extrapolated Bloomberg FVC to estimate the DRP in two other access arrangement reviews (for gas distribution networks owned by Envestra Limited and APT Allgas).[123] In light of these Tribunal statements the AER agreed to APTPPL's proposal to apply the extrapolated Bloomberg FVC for estimating the DRP. The AER was mindful of the Tribunal's recommendation that a public consultation process be completed before an alternative methodology was adopted.[124]

Subsequently, the Tribunal has made two decisions that also dealt with the determination of the DRP.[125] These decisions endorsed the use of the 'bond-yield approach' by the ERA,[126] an alternative bond yield approach to that used by the AER. In essence, the ERA's bond-yield approach estimated the DRP by averaging observed bond yields that met certain criteria.[127] The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate the bond yields.[128] The Tribunal provided guidance on the relevance of various criteria and the use of a more complex weighted average.[129] Such a weighted average was implemented by the ERA on remittal.[130]

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121 AER, *Draft decision*, April 2012, pp. 159; see also AER, *Draft decision: Powerlink transmission determination*, November 2011, pp. 225–229.

122 More specifically, the AER proposed to set the DRP as the average of nine bonds with characteristics that were similar to the benchmark (7–13 years maturity, BBB/BBB+/A- credit rating, fixed/floating, not callable or subordinated, Australian issuance). AER, *Draft decision: Aurora distribution determination*, November 2011, pp. 216–219, 238–253.

123 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 95, 118, 120–121; see also Australian Competition Tribunal, *Application by APT Allgas Energy Ltd [2012] ACompT 5*, 11 January 2012.

124 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 95, 118, 121.

125 Specifically, for the West Australian gas distribution network owned by WA Gas Networks Pty Ltd (now known as ATCO Gas Australia), and for the Dampier to Bunbury Natural Gas Pipeline owned by DBNGP (WA) Transmission Pty Ltd. See Australian Competition Tribunal, *Application by WA Gas Networks Pty Ltd (No 3) [2012] ACompT 12*, 8 June 2012; and Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012.

126 Though the AER and ERA operate under different legislative instruments, the sections relevant to the determination of the rate of return are identical. Australian Competition Tribunal, *Application by WA Gas Networks Pty Ltd (No 3) [2012] ACompT 12*, 8 June 2012, paragraphs 167, 180; and Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 280–282, 287.

127 All bonds (sourced from Bloomberg) were Australian-issued by Australian companies, denominated in Australian dollars and issued in Australia; bonds could be either fixed or floating and either bullet or callable/putable, Different scenarios used other slightly different criteria, such as a minimum term (2 or 5 years), and credit rating (BBB-/BBB/BBB+ or BBB/BBB+).

128 Australian Competition Tribunal, *Application by WA Gas Networks Pty Ltd (No 3) [2012] ACompT 12*, 8 June 2012, paragraphs 176, 180, 187; Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 290, 310–313.

129 More specifically, the Tribunal endorsed the use of the ERA's 'scenario 2', which encompassed a minimum credit rating of BBB and a minimum term of 2 years. It also suggested that it would be appropriate to apportion weight by considering both term to maturity and issuance amount for the relevant bonds.

130 ERA, *Revised decision pursuant to rule 64(4) of the National Gas Rules giving effect to the Economic Regulation Authority's proposed access arrangement revisions for the Mid-West and South-West Gas Distribution System Revised*

If the bond-yield approach (with the weighting method adopted in the ERA's revised decision) was applied to APTPPL using its averaging period, the DRP would be 2.81 per cent.[131] This is below the DRP of 4.06 per cent derived using the extrapolated Bloomberg FVC (as per APTPPL's proposal).

The AER has observed recent bond issues from firms which have similar characteristics to the benchmark firm. These include:[132]

- On 21 June 2012, SPI Electricity and Gas issued $205 million in fixed coupon bonds with a maturity of 10 years. The yield at issue was 5.95 per cent, which converts to a DRP of around 2.96 per cent.[133]
- On 19 April 2012, Powercor Australia issued $200 million in fixed coupon bonds with a maturity of 5 years. The yield at issue was 5.80 per cent, which converts to a DRP of around 2.51 per cent.
- On 3 April 2012, United Energy Distribution issued $200 million in fixed coupon bonds with a maturity of 5 years. The yield at issue was 6.50 per cent, which converts to a DRP of around 2.95 per cent.
- On 1 March 2012, ETSA Utilities issued $200 million in fixed coupon bonds with a maturity of 5 years. The yield at issue was 6.27 per cent, which converts to a DRP of around 2.60 per cent.
- On 10 February 2012, SPI Australia issued $400 million in fixed coupon bonds with a maturity of 5 years. The yield at issue was 6.29 per cent, which converts to a DRP of around 2.75 per cent.[134]

Consistent with the AER's observation in the draft decision, the AER considers that the Bloomberg FVC continues to provide DRP estimates which are higher than other potential approaches—such as the ERA's approach. The Bloomberg FVC also provides estimates which are high in comparison to recent bond issuances from firms with similar characteristics to the benchmark firm.

The AER has commenced an internal review on alternatives to the Bloomberg FVC. The AER will advise of a public consultation process on the development of an alternative in due course.

2.3 Reasons for decision

This section sets out the AER's consideration of issues raised in APTPPL's revised proposal and submissions. These issues include the determination of the risk free rate, MRP and equity beta. The AER has also assessed the overall rate of return against market data.

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by reason of and pursuant to orders of the Australian Competition Tribunal made on 8 June 2012, 25 June 2012, pp. 5–12.

131 This 'bond-yield approach' estimate incorporates 63 bonds with an average term to maturity of 5.95 years.

132 Bond yields in this section are reported by Bloomberg using the DES function on each bond issue. In each case, the DRP has been calculated by the AER with regard to CGS of the relevant duration (5 or 10 years, interpolating between the nearest CGS where necessary), using a five day averaging period prior to bond issuance, and adjusting for annualisation (six monthly coupon payments).

133 For this bond, Bloomberg published a spread of 2.84 per cent, referencing the CGS with 5.75 per cent coupon maturing in 2022.

134 For this bond, Bloomberg published a spread of 2.64 per cent, referencing the CGS with 6.00 per cent coupon maturing in February 2017.

APTPPL's revised proposal accepted the AER's approach to calculating the inflation forecast, approach to measuring the DRP, approach to measuring the risk free rate, the gearing ratio and the corporate tax rate and utilisation of imputation credits (gamma). Where appropriate, the AER has updated these figures for the final decision.

APTPPL's revised access arrangement proposal lists an additional point of disagreement between it and the AER. APTPPL described this third point of disagreement as:

> The application of the Capital Asset Pricing Model using a long term average market risk premium with a currently observed risk free rate.[135]

This is a mischaracterisation of the AER's draft decision. Both in the draft decision and this final decision the AER estimates a 10 year forward looking risk free rate and a 10 year forward looking MRP.

The AER acknowledges that APTPPL was concerned with the impact of the lower risk free rate on its overall rate of return and that this was a driving factor in APTPPL proposing a higher MRP. The AER and APTPPL agree on the methodology for estimating the risk free rate. It is the value of the MRP that is in disagreement. Accordingly, the AER has addressed APTPPL's concerns as part of its estimation of the MRP.

2.3.1 Risk free rate

The AER and APTPPL agree on the approach to determining the risk free rate.[136]

The risk free rate measures the return an investor would expect from an asset with no default risk. The yield on long term CGS is often used as a proxy for the risk free rate because the risk of the Australian Government defaulting on interest and debt repayments is considered to be low.

As was outlined in the draft decision, APTPPL did not submit an averaging period as part of its initial access arrangement proposal. The AER and APTPPL engaged in a series of correspondence shortly thereafter with the outcome being that APTPPL proposed an undertaking that set out a procedure for nominating the averaging period. Further discussion was provided in the draft decision.[137]

On 30 March 2012, APTPPL submitted its proposed averaging period dates to the AER. The proposed dates conformed to the undertaking previously agreed between the AER and APTPPL. In its revised proposal, APTPPL agreed with the AER's approach for determining the risk free rate.[138]

APTPPL did, however, submit a report prepared by Competition Economists Group (CEG) that discussed influences on the CGS market.[139] Also, APTPPL discussed the alternative of using a long term average risk free rate.[140]

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135 APTPPL, *Revised access arrangement submission,* May 2012, p. 38.

136 APTPPL*, Revised access arrangement submission*, May 2012, p. 39.

137 AER, *Draft decision,* April 2012, pp. 130–131.

138 APTPPL, *Revised access arrangement submission*, May 2012, p. 39.

139 CEG, *Internal consistency of risk free rate and MRP in the CAPM*, March 2012.

140 APTPPL, *Revised access arrangement submission*, May 2012, p. 43; APTPPL staff also made comments, in their presentation to the AER Board on 15 June 2012, to the effect that APTPPL would be comfortable with the use of a long term average for the risk free.

The AER is not aware of any evidence that the CGS yield is an inappropriate proxy for the risk free rate to be used in the CAPM. Nor do APTPPL or CEG appear to suggest that there is a problem. Further, recent material from the RBA indicates that 'CGS yields are the most appropriate risk free rate in Australia' in prevailing market conditions.[141] References made by APTPPL and CEG to the use of a long term average of the risk free rate appear to be to address their concerns over the MRP.

The AER has consistently held the position that, in determining the values of the parameters that are the inputs to the CAPM, it is not appropriate, under the current rule framework, to address concerns with one parameter, through another.[142] Each parameter should be estimated based on considerations relevant to that parameter, rather than to deal with issues relating to another parameter. Maintaining the integrity of each parameter promotes rigour and robustness in the estimation of each parameter. The AER is unaware of any well accepted method for making an adjustment to one parameter to correct for a problem in another.

The AER's detailed consideration of the CEG report is dealt with below in the context of the MRP and the interrelationship between the risk free rate and the MRP.

The averaging period proposed by APTPPL and accepted by the AER was between 25 June and 20 July 2012. The average yield on 10 year CGS over the averaging period was 2.95 per cent.

2.3.2 Market risk premium

In the draft decision, the AER did not accept APTPPL's original proposal for an MRP of 7.0 per cent. Applying the approach set out in section 2.2, the AER considered that an MRP of 6 per cent is the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds. An MRP value of 6.0 per cent also meets the objectives of rules 72(1), 74 and 87 of the NGR.

The AER notes that available evidence on the MRP is imprecise. The AER considers that it is reasonable to assess a range of evidence to inform the best estimate of the MRP. In this assessment the AER must apply its judgment to interpret the information before it. After its careful assessment, the AER remains of the view that the available evidence supports an MRP of 6.0 per cent as the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds. The AER holds this view for the following reasons:

- historical excess returns – these estimates provide a range of 4.9–6.1 per cent if calculated on an arithmetic mean basis and a range of 3.0–4.7 per cent if calculated on a geometric mean basis
- survey evidence – surveys of market practitioners consistently supported 6 per cent as the most commonly adopted value for the MRP. These surveys also indicated that the average MRP adopted by market practitioners was approximately 6 per cent
- consultant advice – Professor McKenzie and Associate Professor Partington advised the AER to adopt a 6 per cent MRP estimate.

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141 RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012, p. 1.

142 The AER also holds this position under the electricity rule framework. See AER, *Final decision: Aurora distribution determination*, April 2012, pp. 129–130.

- recent practice among Australian regulators – MRP is an economy wide measure; other regulators in Australia consistently adopted an MRP estimate of 6 per cent under the same CAPM framework

- recent Tribunal decisions – in the Envestra, ATCO and DBNGP matters, the AER and the ERA determined 6 per cent as the best estimate of the MRP based on the available evidence. The Tribunal held the view that it was open for the regulators to adopt 6 per cent for the MRP in all these decisions.

In reaching this view, the AER also considered other methodologies:

- DGM estimates—including the DGM estimates proposed by APTPPL.

- other financial indicators

    - implied volatility

    - credit spreads

    - dividend yield

The AER discusses these considerations in the sections below.

Historical excess returns

The AER considers the historical excess returns are likely to be one factor that informs investors' expectations of future returns. The AER observes that the latest historical excess returns are in a range of 4.9–6.1 per cent based on arithmetic averages and 3.0–4.7 per cent based on geometric averages. The AER considers that these estimates support a forward looking long term MRP of 6 per cent. Given that 6 per cent is towards the top of the quoted range, the AER considers that, if anything, it is more likely to overstate the MRP based on historical excess returns.

Historical excess returns estimate the realised return that stocks have earned in excess of the 10-year government bond rate. Historical excess returns can be directly measured. Though strictly not forward looking, they have predominantly been used to estimate the MRP on the assumption that investors base their forward looking expectations on past experience. In a regulatory context, the use of historical excess returns has a number of advantages as supported by McKenzie and Partington in their December 2011 MRP report:

- the estimation methods and the results are transparent

- the estimation methods have been extensively studied and the results are well understood

- historical estimates are widely used and have support as the benchmark method for estimating the MRP in Australia.[143]

In the draft decision, the AER considered historical excess returns for five different periods of differing length and data quality as calculated by Associate Professor Handley.[144] These historical excess

[143] M. McKenzie, and G. Partington, *Report to Corrs Chambers Westgarth: Equity market risk premium*, 21 December 2011, pp. 5–6 (McKenzie and Partington, *Equity market risk premium*, December 2011).

return estimates, adjusted to incorporate a value for the imputation credit utilisation rate (theta) of 0.35,[145] produce a range of 4.9 to 6.1 per cent (based on arithmetic averages) and 3.0 to 4.7 per cent (based on geometric averages) over the periods 1883-2011, 1937-2011, 1958-2011, 1980-2011 and 1988-2011. These results are set out in table 2.2.

Table 2.2 Historical excess return estimates—assuming a utilisation rate of distributed imputation credits 0.35 (per cent)

Sampling period	Arithmetic mean	Geometric mean
1883–2011	6.1[a]	4.7
1937–2011	5.7[a]	3.7
1958–2011	6.1[a]	3.5
1980–2011	5.7	3.1
1988–2011	4.9	3.0

Source: Handley.[146]
Notes: (a) Indicates estimates are statistically significant at the 5 per cent level using a 2 tailed test.

The AER considers the strengths and weaknesses of each sampling period, which are:

- longer time series contain a greater number of observations and therefore produce a more statistically precise estimate
- later start dates coincide with improvements in the quality of the underlying data source, with significant increases in the quality of the data becoming available in 1937, 1958 and 1980
- more recent sampling periods more closely accord with the current financial environment, particularly since financial deregulation (1980) and the introduction of the imputation credit taxation system (1988)[147]

144 The starting point for each of the five estimation periods were chosen because of changes in the quality of the underlying data sources (1883, 1937, 1958 and 1980) and the introduction of the imputation tax system (1988). See: Brailsford, Handley and Maheswaran, *Re-examination of the historical equity risk premium in Australia,* Accounting and Finance, vol. 48, 2008, pp. 85–86.

145 The 0.35 value for theta is consistent with the Tribunal's position in *Application by Energex Limited (Gamma) (No 5) [2011] ACompT9*, November 2009.

146 Handley, *Historical equity risk premium to 2011*, April 2012, p.6. Handley's estimate of the arithmetic averages starting in 1883 and 1958, updated to 2011, are also found in and confirmed by the report by NERA submitted by the Victorian DNSPs in the Aurora revised proposal submission. Handley's and NERA's update of the geometric average over the periods 1883-2011 and 1958-2011 differ by one basis point. The reason for this difference is unclear to the AER but the difference appears immaterial. See: NERA Economic Consulting, *The market risk premium, A report for CitiPower, Jemena, Powercor, SP AusNet and United Energy*, 20 February 2012, pp. 8–9 (NERA, *Market risk premium*, February 2012).

147 The AER also notes the issue raised by NERA in its submission to Aurora revised proposal that the market excess returns were less volatile prior to the 1950s, See: NERA, *Market risk premium*, February 2012, pp. 13-20. The lack of a well developed theory behind what drives the MRP makes the AER cautious of excluding large periods of data on the basis that it is unrepresentative of a forward looking MRP. The AER also notes the other evidence suggests the historical excess returns are too high prior to 1950s. This was discussed in detail in the draft decision: AER, *Draft decision*, April 2012, pp. 296–297.

- shorter time series are more vulnerable to influence by the current stage of the business cycle or other (one off) events.[148]

The AER considers that there is no one sampling period that is to be preferred, since each period has a number of strengths but at least one weakness. For this reason, the AER considers that all five sampling periods are relevant.

Arithmetic and geometric means

The AER considers the arithmetic average of 10 year historical excess returns would likely be an unbiased estimator of a forward looking 10 year return. However, historical excess returns are estimated as the arithmetic or geometric average of one year returns. Mathematically, if there is variability in the one year historical excess returns, the arithmetic average of one year historical excess returns will overstate the arithmetic average of 10 year historical excess returns. Similarly, the geometric average of one year historical excess returns will understate the arithmetic average of 10 year historical excess returns.[149]

The AER considers it is important to consider both the arithmetic and geometric averages when estimating a 10 year forward looking MRP using historical annual excess returns. This view was supported by the Tribunal.[150]

The AER considers the best estimate of a 10 year forward looking MRP based on historical excess returns is therefore likely to be somewhere between the geometric average and the arithmetic average of annual excess returns.

The AER considered SFG, NERA and Lally's view on arithmetic and geometric averages of historical excess returns in appendix B.2.1.

Survey evidence

In estimating the MRP, the AER is attempting to estimate investors' expectations of what the MRP will be in the future and not simply estimating the excess stock market returns that have been achieved in the past. The AER considers surveys of market practitioners and academics are relevant as they reflect the forward looking MRP applied in practice. The AER is aware of the Tribunal comments made in relation to the survey evidence. The AER applies the criteria noted by the Tribunal to the survey evidence it considers in this decision and concludes the survey results are relevant to inform the forward looking 10-year MRP.[151]

In the draft decision, the AER noted that survey based evidence needed to be treated with caution as the results may be subject to limitations. The relevance of some survey results depend on how clearly the survey sets out the framework for MRP estimation. This includes the term over which the MRP is

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The AER further notes that the arithmetic average of historical excess returns over 1883-2011 and 1958-2011 both produce a historical MRP of 6.1 per cent. The geometric averages are 4.7 and 3.5, respectively. Accordingly, even if the AER were to only rely on the post 1958 data, this would not change the AER's position on the appropriate value of MRP.

148 AER, *Final decision: WACC review,* May 2009, pp. 200, 204; Brailsford, Handley and Maheswaran, *Re-examination of the historical equity risk premium in Australia, Accounting and Finance*, vol. 48, 2008, pp. 78–82.

149 The details are discussed in the Appendix B.2.1.

150 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 152–155.

151 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 159–163.

estimated and the treatment of imputation credits. Survey based estimates may be subjective, because market practitioners may look at a range of different time horizons and they are likely to have differing views on the market risk. This concern may be mitigated as the sample size increases.

Consistent with the draft decision, the AER considers survey evidence from before and after the WACC review. Survey evidence available at the time of the WACC review included the following:

- KPMG (2005) surveyed 33 independent expert reports on takeover valuations from January 2000 to June 2005. It found that the MRP adopted in valuation reports ranged from 6–8 per cent. KPMG reported that 76 per cent of survey respondents adopted an MRP of 6 per cent.[152]

- Capital Research (2006) found that the average MRP adopted across a number of brokers was 5.09 per cent.[153]

- Truong, Partington and Peat (2008) in the last quarter of 2004 surveyed chief financial officers, directors of finance, corporate finance managers, or similar finance positions of 365 companies included in the All Ordinaries Index as of August 2004. From the 87 responses received, 38 were relevant to MRP. They found the MRP adopted by Australian firms in capital budgeting ranged from 3–8 per cent, with an average of 5.94 per cent. The most commonly adopted MRP was 6 per cent.[154]

Survey evidence since the WACC review includes the following:

- Bishop (2009) reviewed valuation reports prepared by 24 professional valuers from January 2003 to June 2008. He found that the average MRP adopted is 6.3 per cent and 75 per cent of these experts adopted an MRP of 6 per cent.[155]

- Fernandez (2009) surveyed university finance and economics professors around the world in the first quarter of 2009. The survey received 23 responses from Australia and found that the required MRP used by Australian academics in 2008 ranged from 2–7.5 per cent with an average of 5.9 per cent.[156]

- Fernandez and Del Campo (2010) surveyed analysts around the world in April 2010. The survey received 7 responses from Australian analysts and found that the MRP used by them in 2010 ranged from 4.1–6 per cent with an average of 5.4 per cent.[157]

- A further survey by Fernandez et al (2011) in April 2011 reported that average MRP used by 40 Australian respondents ranged from 5–14 per cent, with an average of 5.8 per cent.[158]

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152 KPMG, *Cost of capital – market practice in relation to imputation credits*, August 2005, p. 15.

153 Capital Research, ***Telstra's WACC for network ULLS and the ULLS and SSS businesses** – Review of reports by Prof. Bowman*, March 2006, p. 17.

154 G. Truong, G. Partington and M. Peat, *Cost of capital estimation and capital budgeting practices in Australia,* Australian Journal of Management*,* Vol. 33, No. 1, June 2008, p. 155.

155 S. Bishop (Value Advisor Associates), *A conservative and consistent approach to WACC estimation by valuers*, 2009.

156 Fernandez and Del Campo, *Market Risk Premium used by Professors in 2008: A Survey with 1400 Answers, IESE Business School Working Paper*, WP-796, May 2009, p. 7.

157 Fernandez and Del Campo, *Market Risk Premium Used in 2010 by Analysts and Companies: A Survey with 2400 Answers, IESE Business School*, May 21 2010, p. 4.

158 Fernandez, Arguirreamalloa and Corres, *Market Risk Premium used in 56 Countries in 2011: A Survey with 6,014 Answers,* IESE Business School Working Paper, WP-920, May 2011, p. 3.

- Asher (2011) surveyed 2,000 members of the Institute of Actuaries of Australia. Asher reported that 33 out of a total of 58 Australian analysts who responded to the survey expect the 10 year MRP to be between 3 to 6 per cent. The most commonly adopted MRP value was 5 per cent. The report also illustrated that expectations of an MRP much in excess of 5 per cent were extreme.[159]

The key findings of the surveys are summarised below.

Table 2.3 Key findings of MRP surveys

	Numbers of responses	Mean	Median	Mode
KPMG (2005)	33	7.5%	6.0%	6.0%
Capital Research (2006)	12	5.1%	5.0%	5.0%
Truong, Partington and Peat (2008)	38	5.9%	6.0%	6.0%
Bishop (2009)	27	NA	6.0%	6.0%
Fernandez (2009)	23	5.9%	6.0%	NA
Fernandez and Del Campo (2010)	7	5.4%	5.5%	NA
Fernandez et al (2011)	40	5.8%	5.2%	NA
Asher (2011)	49	4.7%	5.0%	5.0%

Source: KPMG (2005), Capital Research (2006), Truong, Partington and Peat (2008), Bishop (2009), Fernandez (2009), Fernandez and Del Campo (2010), Fernandez et al (2011), Asher (2011)

The AER considers that survey measures of the MRP across different years, different survey respondents or sources, and different authors support an MRP of 6.0 per cent. For the surveys under consideration, the most commonly used MRP was 6 per cent.

In their February 2012 MRP report, McKenzie and Partington advised that despite the acknowledged deficiencies in survey evidence in estimating forward looking MRP, they place significant weight on the survey evidence because of the triangulation of the survey evidence. The idea behind the triangulation is that a specific survey might be subject to a particular type of bias (although there is no compelling demonstration of it). However, it is much less likely that this would be a consistent problem across surveys using different methods and target different populations.

The AER applied the available survey evidence against the criteria noted by the Tribunal in the appendix. After careful consideration of this analysis and McKenzie and Partington's view, the AER considers that survey based estimates of the MRP are relevant for consideration to inform the forward looking MRP. Survey evidence supports the view that a forward looking MRP of 6 per cent is the best estimate in the current circumstances.

Further details of the AER's analysis and reasons for its decision on survey evidence are set out in appendix B.2.2.

[159] Actuary Australia 2011 Issue 161, Asher, *Equity Risk Premium Survey—results and comments*, July 2011, pp. 13–14.

Recent practice among Australian regulators

The AER notes Australian regulators consistently applied an MRP of 6 per cent in recent regulatory decisions. The regulators determined the MRP under a specific CAPM framework:

- the MRP is forward looking (not an historical measure), and cannot be directly observed
- the MRP is for a long term (e.g. 10 years), which means that short-term (e.g. 1 year) market fluctuations are of little relevance
- the MRP is for a domestic CAPM, which means overseas evidence is of limited relevance.

Table 2.4 shows decisions from Australian state and territory regulators dealing with electricity, gas, water, rail and postal services. It also includes decisions by the ACCC concerning various regulated sectors.

Table 2.4 Recent regulatory decisions

Regulator	Decision date	Sector	MRP
ACCC	May 2010	Postal services	6.0
QCA	June 2010	Water	6.0
QCA	September 2010	Rail	6.0
ACCC	December 2010	Rail	6.0
ERA	February 2011	Gas	6.0
AER	June 2011	Gas	6.0
ACCC	July 2011	Telecommunications	6.0
ACCC	July 2011	Water	6.0
ESCV	August 2011	Rail	6.0
ACCC	September 2011	Airports	6.0
ERA	October 2011	Gas	6.0
QCA	November 2011	Water	6.0
IPART	December 2011	Water	5.5 - 6.5
ESCOSA	February 2012	Water	6.0
ERA	March 2012 (draft decision)	Electricity	6.0
IPART	June 2012	Water	5.5-6.5
IPART	June 2012	Water	5.5-6.5
IPART	July 2012	Electricity	5.5-6.5

Source: ACCC,[160] AER,[161] ERA,[162] ESC,[163] QCA.[164] IPART[165], ESCOSA[166]

[160] ACCC, *Australian Postal Corporation, 2010 Price Notification*, May 2010 pp. 80–81; ACCC, *Position Paper in relation to the Australian Rail Track Corporation's proposed Hunter Valley Rail network Access Undertaking*, 21 December 2010, p. 104; ACCC, *Final report: Inquiry to make final access determinations for the declared fixed line services*, July 2011, p. 63; ACCC, *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, July 2011, pp. 32–33; and ACCC, *Final decision: Airservices Australia price notification*, September 2011, pp. 26, 29.

[161] AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 41.

[162] ERA, *Final decision on WA Gas Networks Pty Ltd proposed revised access arrangement for the Mid–West and South–West Gas Distribution systems*, 28 February 2011, p. 103; ERA, *Final decision: Access arrangement information for the Dampier to Bunbury Natural Gas Pipeline*, December 2011, p.159 (ERA, *Final decision: Access arrangement information for the DBNGP*, December 2011); ERA, *Draft decision: Proposed revisions to the access arrangement for the Western Power network*, March 2012, p. 206 (ERA, *Draft decision: Western Power access arrangement*, March 2012).

[163] ESCV, *Final decision: Metro proposed access arrangement, August 2011*, p. 85.

[164] QCA, *Final Report: Gladstone Area Water Board: Investigation of Pricing Practices*, June 2010, p. 124; QCA, *Final decision: Dalrymple Bay Coal Terminal 2010 Draft Access Undertaking*, September 2010, p. 8; QCA, *Draft Report: SunWater Irrigation Price Review: 2012-17 - Volume 1*, November 2011, p. 392.

The AER considers the decisions by other Australian regulators are relevant as the MRP is an economy wide measure. The AER considers the decisions by other Australian regulators support the view that a forward looking MRP of 6 per cent is the best estimate in the current circumstances.

Recent Australian Competition Tribunal decisions

In 2011, Envestra challenged the AER's decisions to approve an MRP of 6 per cent with respect to Envestra's SA and QLD gas distribution businesses. Envestra claimed that the AER should have accepted Envestra's proposed 6.5 per cent MRP. The Tribunal concluded:

> The critical issue in this section of the review is whether the AER's determination of the MRP at 6% was reasonably open to it on the evidence. As has already been mentioned, there was substantial evidence before the AER, both that submitted to it by service providers and that sourced by the AER itself. This evidence was not conclusive. It was incumbent upon the AER to exercise its judgment in deciding on an appropriate MRP.
>
> ...
>
> It is not sufficient for Envestra to persuade the Tribunal that 6.5% should be preferred. It must demonstrate the unreasonableness of the decision made by the AER. Unless this can be done, the Tribunal would be merely reaching a different conclusion as to the preferable result. The mere fact that the Tribunal may prefer a different rate does not entitle it to substitute its preferred MRP for that of the AER unless a ground of review has been made out. In all the circumstances of this matter, it was **reasonably open to the AER to choose an MRP of 6%**.[167] [emphasis added]

The Tribunal handed down similar decisions in its reviews of access arrangements made by the ERA, for ATCO's (formerly WA Gas Network's) gas distribution network (8 June 2012) and DBNGP's gas transmission pipeline (26 July 2012).[168] In both cases, the ERA considered the available information and exercised its discretion to determine the appropriate MRP. The Tribunal subsequently found no error in ERA's determination of a 6 per cent MRP in either decision.[169]

DGM based estimates of the MRP

DGM analysis can provide some information on the expected MRP. It examines the forecast future distributions of businesses and derives the cost of equity that makes these distributions consistent with the market valuation of the equity of those businesses.

However, the AER considers that the DGM based estimates of the return on equity and inferred estimates of the MRP are highly sensitive to the assumptions made. It is necessary that all assumptions made have a sound basis, otherwise estimated results from DGM analysis may be

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165 IPART, *Final report: Review of water prices for Sydney Desalination Plant Pty Limited*, December 2011, p. 80; IPART, *Final report: Review of prices for Sydney Water Corporation's water, sewerage, drainage and other services*, June 2012, p. 87; IPART, *Final report: Review of prices for the Sydney Catchment Authority*, June 2012, p. 90; IPART, *Final report: Changes in regulated electricity retail prices from 1 July 2012*, July 2012, p. 102.

166 ESCOSA, *Final Advice: Advice on a Regulatory Rate of Return for SA Water*, February 2012, p. 50

167 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 4*, 11 January 2012, paragraphs 145 and 148.

168 Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraphs 72–108; Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 139–163.

169 Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraphs 104–105, 108; Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 159–163.

inaccurate and lead analysts into error.[170] This view is supported by McKenzie and Partington in their December 2011 MRP report:

> Clearly valuation model estimates are sensitive to the assumed growth rate and a major challenge with valuation models is determining the long run expected growth rate. There is no consensus on this rate and all sorts of assumptions are used: the growth rate in GDP; the inflation rate; the interest rate; and so on. A potential error in forming long run growth estimates is to forget that this growth in part comes about because of injections of new equity capital by shareholders. Without allowing for this injection of capital, growth rates will be overstated and in the Gordon model this leads to an overestimate of the MRP.[171]

In the WACC review and its previous decisions, the AER considered:

- the implied MRP produced by DGM estimates are very sensitive to both the exact specification of the model used and the exact point in time in which they are estimated
- there are no reliable input assumptions. Generally the expected market growth rate in dividends per share (a key input) is proxied with analysts' short term forecasts of market wide earnings per share growth, or long term expectations of GDP growth (or both). Further, Associate Professor Lally advised such proxies are likely to produce an upward bias in the resultant MRP estimates[172]
- regulators had previously been wary to lower the MRP when DGM estimates were below 6 per cent. The AER is similarly wary to increase the MRP (based on DGM estimates) even though those estimates at times can produce estimates above 6 per cent
- during the WACC review, academics (Officer and Bishop, CEG) and industry representatives (ENA) considered DGM estimates should be used as a 'cross check' on the reasonableness of other methods to estimate the MRP rather than used as the primary method
- although DGM is extensively used by the US economic regulators, it is not widely adopted in the Australian context.[173]

The AER further notes that different consultants produce a wide range of different MRP estimates using DGM analysis. The current estimates range from 6.62 per cent to 8.52 per cent. This is illustrated in table 2.5.

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170 For example corporate finance texts have noted "The simple constant-growth DCF [discounted cash flows] formula is an extremely useful rule of thumb" but "Naive trust in the formula has led many financial analysts to silly conclusions." Brealey, Myers and Allen, *Principles of Corporate Finance: International Edition,* 9th Edition, Boston: McGraw-Hill, 2008, p. 95.

171 McKenzie and Partington, *Equity market risk premium*, December 2011, p. 25.

172 M. Lally, *The cost of equity and the market risk premium*, 25 July 2012, pp. 11–23. (Lally, *Cost of equity and the MRP*, July 2012).

173 The AER understands that in the US there may be better quality data for DGM analysis.

Table 2.5 Recent DGM MRP estimates produced by consultants

	Dividend yield	Dividend per share growth	Risk free rate	MRP estimate
CEG (Mar 2012)	5.68%	6.60%	3.77%	8.52%
Capital Research (Feb 2012)	4.70%	7.00%	5.08%	6.62%
Capital Research (Feb 2012)	5.23%	7.00%	5.08%	7.15%
Capital Research (Feb 2012)	5.71%	7.00%	5.08%	7.63%
NERA (Feb 2012)	Bloomberg and IBES forecasts	5.65%	3.96%	7.72-7.75%

Source: CEG (Mar 2012), Capital Research (Feb 2012) and NERA (Feb 2012)

The AER also considered a report prepared by Capital Research in 2005, which derived negative MRP estimates from DGM analysis for the period 1980 to 2004. In the report, Capital Research suggested a negative result is 'nonsense' and noted:

> ...We must be careful not to ask too much of this model. Recall that it is based on a constant growth assumption. Any model which makes such highly stylised and constant assumptions about the world is going to struggle to be relevant in a world undergoing dramatic changes. The result of the model suggesting negative risk premia is an outcome of a too precious model rather than the investment world being irrational.[174]

The AER notes that some DGM analyses are currently producing high positive MRP estimates. However, the AER is not aware of any reasonable evidence suggesting the current estimates derived from DGM analysis are more reliable than estimates from the period before 2004.

Further, Lally noted several other problems associated with the DGM analysis:

- at a given point in time, the estimated cost of equity for the market is assumed to be the same for all future years. This 'perfect–offset hypothesis' is implausible and, if the current risk free rate is unusually low, will overestimate the cost of equity for the next ten years
- the methodology assumes that the current value of the market matches the present value of future dividends. If the current value of the market is below the present value of future dividends, then the estimate for the market risk premium that arises from this methodology will be too high
- short-term fluctuations in the market's earnings retention rate have a significant impact on the estimates. DGM methodology does not take account of these changes.[175]

Further details of the AER's consideration on DGM analysis is set out in appendix B.2.3.

Other financial market indicators

Other financial market indicators (implied volatility, credit spreads and dividend yield) have been proposed by businesses as relevant factors in the estimation of the MRP. In the draft decision, the

[174] Capital Research, *Australian market risk premium*, January 2005, pp. 31-32.
[175] Lally, *Cost of equity and the MRP,* July 2012, pp. 15-18.

AER outlined its concerns about the use of such financial market indicators in estimating a 10 year forward looking MRP:

- Implied volatility—relies on certain contentious assumptions to derive an MRP estimate.[176] In particular, the assumption that the price of risk per unit of implied volatility is constant is disputed on theoretical and empirical grounds.[177] The method only provides a short-term estimate of the MRP (usually 3 months, matching the term of the implied volatility measure) and the AER is unaware of any settled method to extrapolate to a longer term. Given that the relevant MRP is the 10 year forward looking rate, the AER places limited weight on the MRP estimate derived on this basis.

- Credit spread—refers to the difference in yields between bonds with high (AAA-rated) and low (BBB-rated) credit ratings. As with implied volatility methods, credit spreads will differ based upon the method chosen to measure the bond yields. McKenzie and Partington noted with this methodology there is no well developed, reliable and precise way to separate out the effect of changes in the MRP from other effects[178]. The AER considers this is a key limitation to the credit spread analysis and places limited weight on this method when determining the 10 year forward looking MRP.

- Dividend yield—in this context is calculated for the entire market, using forecast distributions (dividends) for all firms in a broad share market index divided by the total value of those shares. The dividend yield estimate will differ based on the choice of index, the method of obtaining and aggregating dividend forecasts and the horizon of those dividend forecasts. The AER considers the key limitation is the lack of clarity around the relationship (if any) between dividend yield and the 10 year forward looking MRP.

A detailed discussion of the AER's assessment of the three financial market indicators can be found in appendix B.2.4.

MRP estimate proposed by APTPPL

In the initial access arrangement proposal, APTPPL submitted a SFG report, which advocated the use of other financial market indicators–implied volatility, credit spreads and dividend yield. APTPPL used these indicators as the primary support for its initial MRP proposal of 7 per cent. However, these financial market indicators were not discussed in the revised proposal. APTPPL instead submitted a CEG report and proposed to use an MRP estimate of 8.5 per cent in line with APA GasNet's initial access arrangement proposal.[179] Specifically CEG used DGM analysis based on the AMP method and derived an MRP estimate of 8.5 per cent.

It is not clear how APTPPL has reconciled the new CEG material with the SFG approach from its original proposal. It may be that APTPPL has accepted the AER's criticisms of the SFG approach from the draft decision. However, this is not clear. To the extent that APTPPL continues to rely on the SFG approach, the AER has updated the measures included in the SFG report for current market

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176 Further, there are problems determining the appropriate measure of implied volatility, with different measures (based on different underlying options) producing conflicting figures.

177 See discussions in AER, *Draft decision, Envestra Ltd, Access arrangement proposal for the SA gas network*, February 2011, pp. 282–283.

178 McKenzie and Partington, *Equity market risk premium*, 21 December 2011, pp. 30–31.

179 APTPPL and APA GasNet are both subsidiaries of APA Group. APA GasNet submitted its access arrangement proposal for the Victorian gas transmission system in March 2012.

data. Using current market data, SFG's methodology would not support an MRP estimate of 8.5 per cent (or an estimate of 7 per cent from the initial access arrangement proposal). This is considered in detail in appendix B.2.4.

The CEG report submitted in the revised proposal estimated the cost of equity using end December 2011 dividend yields from the RBA and long run dividend growth of 6.6 per cent. CEG then derived an MRP estimate of 8.5 per cent by subtracting the risk free rate of 3.77 per cent as at 31 December 2012 from the cost of equity estimate. The AER does not consider an MRP estimate of 8.5 per cent based on the CEG DGM analysis is the best estimate in the current circumstances.

The CEG analysis is highly sensitive to the assumptions made, particularly to the dividend per share growth assumption. Table 2.6 illustrates the sensitivity of the CEG DGM analysis to different dividend growth rate assumptions.

Table 2.6 MRP estimates with different growth assumptions

Dividend per share growth	Dividend yield	Risk free rate	MRP estimate
6.60%	5.68%	3.77%	8.52%
6.00%	5.68%	3.77%	7.91%
3.50%	5.68%	3.77%	5.41%

Source: AER analysis

In addition to the general limitations of the DGM analysis and CEG AMP method discussed in appendix B.2.4 and section 2.3.3, Associate Professor Lally identified two further problems with the 8.5 per cent MRP estimate derived by CEG:

- by using an historical dividend yield, CEG ignores the (1+g) term in deriving the market cost of equity
- it is inappropriate for CEG to set the dividend growth to the long term GDP growth. By making such an assumption, the expected long-term growth rate in all dividends from all companies would exceed that for GDP. This is logically impossible.[180]

Associate Professor Lally considered the net effect of these two problems is to overestimate the MRP by about one per cent. This overestimation is in addition to the general limitations discussed above.[181]

2.3.3 Relationship between the risk free rate and market risk premium

CGS yields are currently at a historical low. It is in this context that the AER is determining the rate of return for APTPPL. The AER and APTPPL agree on the appropriateness of using the prevailing yield on 10 year CGS as the proxy for the risk free rate. The AER and APTPPL also agree on using the Sharpe-Lintner CAPM as a well accepted model for determining the cost of equity. The effect of using this lower risk free rate within the Sharpe-Lintner CAPM, ceteris paribus, is to lower the cost of equity from that determined by the AER in previous decisions.

[180] Lally, *Cost of equity and the MRP,* July 2012, pp. 18–20.
[181] Lally, *Cost of equity and the MRP,* July 2012, p. 20.

It is in this context that APTPPL proposed that the AER should adopt a 8.5 per cent MRP, rather than the 6 per cent value adopted in the draft decision and in previous AER decisions, or the 7 per cent value proposed by APTPPL in its initial access arrangement proposal. Among other contentions, APTPPL stated that the cost of equity determined by the AER for its access arrangement should be similar to the cost of equity determined by the AER in the past for the access arrangements of other service providers.

The issues this matter raises can be grouped into four broad categories:

- the interaction between these parameters from a legal framework and good regulatory practice perspective. That is, if there is a perceived 'problem' in the calculation of the risk free rate, whether it is appropriate to address this through the estimation of the MRP
- whether the MRP and risk free rate are estimated consistently
- the economic interdependencies between these two parameters. That is, whether the MRP is high when the risk free rate is low
- the reasonableness of the resulting cost of capital and cost of equity.

Regulatory framework

The AER has consistently held a position that each parameter should be estimated based on considerations relevant to that parameter. A parameter should not be adjusted to deal with issues relating to another parameter.

Maintaining the integrity of each parameter promotes rigour and robustness in the estimation of each parameter. Addressing a risk free rate issue through the estimation of the MRP introduces subjectivity and lacks rigour. Besides, the AER is unaware of any well accepted method for making these kinds of adjustments without introducing subjectivity or greater regulatory risk.

The AER understands the operation of r. 87 of the NGR as the following:

- Rule 87(1) describes the objective in determining the WACC but provides no guidance on how the objective is to be achieved.
- Rule 87(2) describes how the objective is to be achieved; including through a well accepted approach, such as the WACC, and through a well accepted financial model, such as the CAPM.
- Rule 87(1) informs the selection of appropriate input parameters to be used in the well accepted approach and well accepted financial model. That is, input parameters must reflect prevailing conditions in the market for funds and the risk involved in providing reference services.

This interpretation is consistent with the Tribunal's position in two recent decisions, for ATCO (previously known as WA Gas Networks) and DBNGP.[182]

[182] Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraphs 61-66; see also Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 80–84, 100–103.

The AER uses the CAPM to estimate the cost of equity for the purposes of determining the WACC under r. 87(2) of the NGR. The MRP, like the risk free rate, is an input into the calculation of the cost of equity for the purposes of the WACC referred to in r. 87(2) of the NGR. The AER considers the input parameters will not reflect prevailing conditions in the market for funds if an otherwise appropriate parameter is altered to resolve an issue elsewhere.

APTPPL did not propose the AER adopt a risk free rate above the prevailing rate. However, the CEG report submitted by APTPPL did recommend this as one of three options. Specifically, CEG recommended adopting a long term historical average risk free rate (of 5.99 per cent) with what it argues is a long term historical MRP of 6 per cent.

For reasons set out in this final decision, the AER considers a 6 per cent MRP is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. However, even if this were not the case, the AER does not consider it would be appropriate to address a perceived problem with the MRP through the estimation of the risk free rate due to the lack of rigour and robustness this approach would have the potential to introduce. Arguably, this is also the approach required by the NGR, given the Tribunal's construction of r. 87 of the NGR in the ATCO matter.[183]

Further, this view is supported by Associate Professor Lally who states that:

> ...CEG's proposed methodology sacrifices a relevant, critical and observable parameter within the cost of equity (the current risk free rate) in order to offset alleged errors in another parameter (the market risk premium).[184]

Consistency of the MRP and risk free rate estimates

In the revised proposal, APTPPL suggested the WACC determined by the AER is biased downward as the AER adopts an MRP that reflects the long term average and uses a risk free rate that reflects the current market environment.[185] This is a mischaracterisation.

For both the risk free rate and the MRP, the AER has estimated a 10 year forward looking rate that is commensurate with prevailing conditions in the market for funds.[186] In this context, prevailing conditions can be considered 'prevailing expectations' over the relevant forward looking timeframe which is 10 years.[187] Accordingly, both the risk free rate and MRP are forward looking estimates, though they are estimated using different types of data:

- A 10 year forward looking risk free rate is more directly observable as it can be estimated based on current market data (using 10 year CGS yields as the proxy). 10 year CGS yields can be expected to have priced into them the market's expectations of movements in the yields of short term CGS bonds over the next 10 years.

- A 10 year forward looking MRP is more challenging to estimate. Accordingly, consideration of a broader set of evidence is needed to form a judgement on the MRP. Long term historical average

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183 ATCO was previously known as WA Gas Networks. Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraphs 61-66. This position was endorsed in the DBNGP decision, see Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 80–84, 100–103.

184 Lally, *Cost of equity and the MRP,* July 2012, p. 22.

185 APTPPL, *RBP AA revised proposal submission*, May 2012m pp. 40–41

186 Lally, *Cost of equity and the MRP,* July 2012, pp. 23–27.

187 AER, *Final decision: WACC review*, May 2009, pp. 72–77.

excess returns are one such source of evidence and are used on the basis that investors' forward looking expectations are likely to be influenced by their historical realised returns. The AER has also considered other forward looking evidence, such as survey evidence, in determining the appropriate estimate for the MRP.

The AER's estimation of both the risk free rate and MRP occurs in the context of their application within the CAPM. Both Associate Professor Lally and Greg Houston of NERA, in their expert evidence to the Federal Court in the ActewAGL matter agreed on the best approach that is consistent with CAPM theory:

> There was no dispute between the experts that the CAPM theory 'suggests that, ideally, the nominal risk-free rate input will be calculated on the day of the final determination'. The AER believed that applying an averaging period that is closely aligned to the date of the final determination provides an unbiased rate of return that is consistent with the market conditions at the time of the final determination.[188]

Accordingly, the AER's estimation of the risk free rate is consistent with the requirements of the CAPM.

Further, in response to the CEG report submitted by APTPPL the AER sought advice from the Reserve Bank of Australia (RBA), Treasury and the Australian Office of Financial Management (AOFM). The AER sought advice on whether in current market conditions the yield on 10 year CGS remained a good proxy for the risk free rate. The advice received from the RBA, Treasury and the AOFM is discussed in appendix B.1.1.[189]

Economic interdependencies

APTPPL submitted in its revised proposal that there is a negative relationship between the MRP and the risk free rate.[190] The contention was based on a report from CEG. In turn, the CEG report presents three types of evidence in support of this contention:

- a theoretical argument
- empirical evidence
- a chart based on DGM estimates.

The AER addresses each of these in turn.

Theoretical argument

The AER acknowledges that, on face value, there may be a theoretical case for a negative relationship between the risk free rate and MRP under certain circumstances.[191] However, it is not clear that any such theoretical relationship holds over the investment horizon relevant to the AER's assessment of APTPPL's rate of return. That investment horizon is a 10 year forward looking period

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188 Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator [2011] FCA 639*, 8 June 2011, paragraph 119.

189 RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012; and Australian Treasury and AOFM, *The Commonwealth Government Securities Market, Letter to ACCC*, 18 July 2012.

190 APTPPL, *Revised access arrangement submission*, May 2012, pp. 41–43.

191 For example, Lally notes that these circumstances might include depressed economic conditions, and cites several relevant academic papers. However, Lally also notes that Australia is not presently experiencing depressed economic conditions (though this might be true overseas). Lally, *Cost of equity and the MRP,* July 2012, p. 7.

for both the risk free rate and MRP. Additionally, as discussed below, the empirical evidence in support of such a relationship over the relevant period is not strong and to some extent equivocal.

Further, Associate Professor Lally considers that:

> Although there is nothing in finance theory that supports (or rejects) a negative relationship between the CGS rate and the MRP, a negative relationship is plausible because the market risk premium is compensation for bearing equity risk (Merton, 1980), equity risk (volatility) seems to be greatest in depressed economic conditions (French et al, 1987, Figure 1a), and the risk free rate also tends to be lowest in depressed economic conditions.[192]

However, Lally goes further to state that:

> ...whilst CGS yields are low because of generally depressed world economic conditions, Australia is not experiencing depressed economic conditions. Furthermore, even if the correlation between the CGS yield and the MRP were negative, the significant issue for regulatory purposes is the *strength* of this relationship and especially its strength in respect of the ten year risk free rate and the ten year MRP. Market volatility (and therefore the market risk premium) might be high today but volatility (and hence the MRP) tends to rapidly subside to normal levels (French et al, 1987, Figure 1a) and the MRP for the next ten years might not then be greatly increased by a temporary upsurge in volatility.[193]

This is relevant to the AER's task as the AER is estimating a 10 year forward looking MRP. Accordingly, while there may be a tendency for the negative relationship over the short term, neither the theory nor the empirical evidence before the AER seems to support this relationship over longer periods. The empirical evidence is considered further in the next section.

Empirical evidence

McKenzie and Partington noted that there is some empirical evidence supporting a negative correlation between the short term nominal government bill yield and future nominal excess returns on the market.

However McKenzie and Partington advised that this negative correlation gets weaker as the time horizon gets longer.[194] This is relevant to the AER's assessment because the AER is estimating a 10 year forward looking MRP, not a forward looking MRP over a short time horizon.

McKenzie and Partington also advised in their February 2012 supplementary MRP report that there is some empirical evidence supporting an inverse relationship between the nominal government bond yield and future nominal excess returns. However, the explanatory power of these regressions is low and there is parameter instability. The consequence is that these regressions are unlikely to provide a reliable forecast of excess returns. McKenzie and Partington stated:

> Low explanatory power is usual for equations that predict returns, but in the current case it does mean that the effect of the yield is readily offset by random variation in other factors. In other words, random variation represents most of the excess returns. It also seems that the relation is not particularly stable. A consequence of low explanatory power and instability is that the regression between yields and excess returns is unlikely to provide a reliable forecast of excess returns.[195]

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192 Lally, *Cost of equity and the MRP,* July 2012, p. 7.

193 Lally, *Cost of equity and the MRP,* July 2012, p. 7.

194 M. McKenzie, and G. Partington, *Report to the AER: Supplementary report on the equity market risk premium*, 22 February 2012, p. 10 (McKenzie and Partington, *Supplementary report on the MRP*, February 2012).

195 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p.10.

Based on this advice, the AER concludes that the empirical evidence in support this relationship is not strong. The AER also notes there is some evidence suggesting the relationship could be positive.[196]

Further, Lally noted the 2001 Lettau and Ludvigson paper used by CEG to support its negative relationship argument examined the US 30-day Treasury Bill rate rather than the 10-year rate and this short term negative relationship reversed after two years.[197]

Dividend growth model chart based on the AMP method

The AER has also examined the CEG graph, reproduced below. CEG derived this time series by first estimating the prevailing cost of equity (the red line) and then calculated the MRP (the green line) by subtracting the prevailing 10 year CGS yield at any point in time (the blue line).[198] The red line is relatively stable over time. Therefore, by construction, subtracting the blue line from the red line creates the appearance of very strong negative correlation between the risk free rate (green line) and MRP (blue line).

Additionally, because this method is based on the DGM model, all of the general limitations of the DGM model outlined by the AER in other parts of this decision also apply to this analysis.

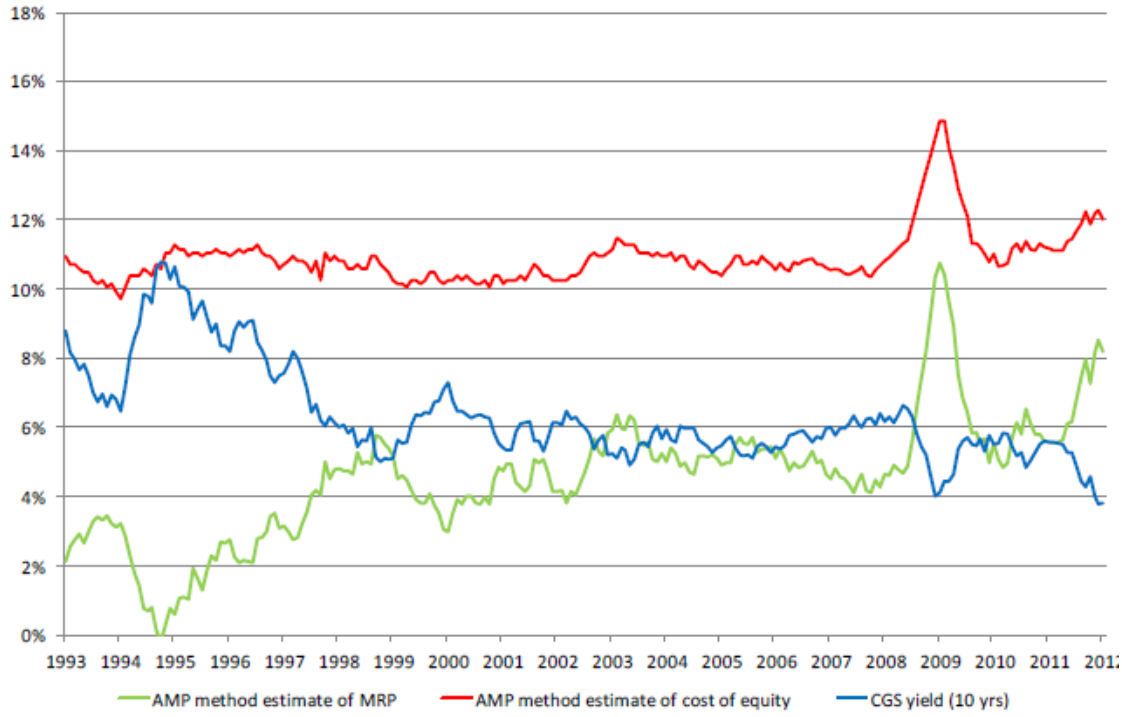
Lally found the CEG AMP method uses a 'perfect-offset assumption' and therefore generates results showing a stable cost of equity over time.[199] The AER considers this methodology cannot be used as valid empirical evidence to prove the negative relationship between the prevailing market risk premium and the prevailing risk free rate. Lally describes CEG's chart as being 'pre-disposed' to the result which it displays.[200]

Lally also points out this method produces an MRP estimate of zero in 1994, an 'implausible' result. Combining these points, Lally concludes:

> Thus, if the perfect-offset hypothesis should be rejected in 1994 when the risk free rate was unusually high, it should also be rejected in 2012 when the risk free rate was unusually low.[201]

196 See A. Damodaran, *Equity risk premiums: determinants, estimation and implications – the 2012 edition,* March 2012, (Damodaran, *Equity risk premiums*, March 2012).
197 Lally, *Cost of equity and the MRP,* July 2012, p. 8.
198 CEG, *Internal consistency of risk free rate and MRP in the CAPM*, March 2012, p. 17.
199 Lally, *Cost of equity and the MRP,* July 2012, pp. 9–12, 15.
200 Lally, *Cost of equity and the MRP,* July 2012, p. 11.
201 Lally, *Cost of equity and the MRP,* July 2012, p. 15.

Figure 2.1 CEG AMP method estimate of RoE and MRP relative to 10 year CGS yields



Source: CEG, Internal consistency of risk free rate and MRP in the CAPM, March 2012, Figure 8.

2.3.4 Equity beta

The AER adopts an equity beta of 0.8. The AER does not accept APTPPL's proposed equity beta of 1.0.[202] An equity beta of 0.8 is more reflective of the risks involved in providing reference services than adopting the equity beta of the average firm in the market (which by definition is 1.0). This position is consistent with the AER's draft decision.[203] Overall, the AER considers that:

- the empirical evidence supports an equity beta of between 0.4 and 0.7 for the benchmark gas transmission network service provider.[204] The empirical evidence primarily relates to Australian electricity and gas networks, but also includes analysis using overseas energy networks and Australian water utilities
- conceptual analysis supports an equity beta that is 'among the lowest possible' and below 1.0, as per the expert advice from Professor McKenzie and Associate Professor Partington of the University of Sydney.[205]

The AER also takes into account:

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202 APTPPL, *Revised access arrangement submission,* May 2012, pp. 43–44.

203 For the avoidance of doubt, though the AER's position remains unchanged, it considers all the information that has arisen since the draft decision before arriving at this position. AER, *Draft decision,* April 2012, pp. 29–30, 148–157.

204 More specifically, the empirical evidence suggests that an equity beta estimate of between 0.4 and 0.7 would meet the requirements of r. 74(2)(b) and r. 87(1) of the NGR. It would be commensurate with the prevailing market conditions and reflect the risks involved in providing reference services. AER, *Final decision: WACC review*, May 2009, pp. 311–332.

205 McKenzie and Partington, *Estimation of equity*, April 2012, pp. 22–23.

- the strengths and weaknesses of each type of evidence[206]
- the level of precision around the best estimates
- the importance of consistency in regulatory decisions.[207] In this context, the AER notes that it has applied an equity beta of 0.8 in other gas network regulatory processes.[208]

On the basis of the available information, the AER concludes that an equity beta of 0.8 provides APTPPL with an opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.[209] The AER considers that this outcome is consistent with the NGO,[210] and the revenue and pricing principles. The AER's reasons for this view are outlined in the following sections.

APTPPL's revised proposal stated that the AER had disregarded substantial evidence that the equity beta for the benchmark firm should be at least 1.0, namely a March 2011 report by CEG.[211] This is not the case. APTPPL did not submit this report in its original access arrangement proposal, nor did it draw the AER's attention to it.[212] In its revised proposal, APTPPL has now placed the March 2011 CEG report before the AER. This final decision considers the material presented therein. The AER sets out in this decision document the reasons why it arrives at its decision, including its critical evaluation of the different pieces of evidence, such as the material put by APTPPL (and its consultants). The AER considers that the material before it supports a conclusion that is different to the view submitted by APTPPL. The AER's conclusion reflects the correct exercise of regulatory judgement after carefully evaluating the merits of the large body of material.[213]

In appendix B.3, the AER responds in detail to the material in the APTPPL revised proposal, including the March 2011 CEG report.[214]

Empirical analysis for Australian electricity and gas networks

Empirical evidence using Australian electricity and gas networks is the primary determinant of the equity beta set by the AER.[215] The AER considers that the best empirical analysis of this type is that

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206 In particular, the relevance of empirical evidence is limited by how close the underlying data set is to the characteristics of the benchmark firm.

207 See AER, *Final decision: WACC review*, May 2009, pp. 341–344.

208 AER, *Final decision (public): N.T. Gas Access arrangement proposal for the Amadeus Gas Pipeline, 1 August 2011 – 30 June 2016*, July 2011, pp. 67–70 (AER, *Final Decision: N.T. Gas access arrangement*, July 2011); AER, *Final decision: Envestra Ltd Access arrangement proposal for the SA gas network, 1 July 2011 – 30 June 2016*, June 2011, pp. 46–49, 176–184 (AER, *Final decision: Envestra access arrangement SA*, June 2011); and AER, *Final decision*: *APT Allgas access arrangement,* June 2011, pp. 29–32, 112–121.

209 NGL, s. 24(2).

210 In particular, the need for efficient investment in natural gas services for the long-term interests of consumers of natural gas.

211 APTPPL, *Access Arrangement Revised Proposal Submission, Effective 12 April 2012-30 June 2017*, May 2012, p. 43.

212 The March 2011 CEG report had already been addressed in earlier AER decision documents (where the AER applied an equity beta of 0.8). Hence, while the AER gave implicit consideration to this report in making the RBP draft decision, there was no explicit reference to the March 2011 CEG report, which had not been submitted as part of this regulatory process.

213 See Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraph 141.

214 Source document is CEG, *WACC estimation: A report for Envestra*, March 2011.

215 The AER interprets all these estimates with proper acknowledgment of the limitations of these techniques and the imprecision of the results.

undertaken during the AER's WACC review (2009).[216] This is because appropriate econometric techniques were used in this empirical analysis, with extensive consultation concerning both the techniques and the interpretation of the results.[217] In addition, the WACC review also encompassed analysis using alternative econometric techniques.[218] Across these different scenarios, results converge on the range of 0.4 to 0.7.[219] The AER considers that, because of the techniques used, the consultation process completed, and the robust results across scenarios, this empirical analysis is likely to be reliable.

Further, the AER considers other equity beta estimates that used the same comparator set (that is, listed Australian electricity and gas networks) but which were published after the WACC review.[220] These include analyses:[221]

- by Competition Economists Group (CEG) for Envestra Ltd in September 2010. For the five year period ending in June 2010, the average of six individual equity beta estimates was 0.62 (median of 0.52)[222]

- by NERA Economic Consulting (NERA) for the Queensland Competition Authority in March 2011. The most relevant results were for the eleven year period ending in early 2011, with average portfolio equity beta estimates of 0.45 to 0.52[223]

- by the ERA in March 2012. Following the AER approach, the ERA implemented a number of different econometric techniques—weekly and monthly measurement intervals, OLS and LAD regression forms, considering point estimates and confidence intervals—but considered ten years of data ending in October 2011. The results converged on the same equity beta range as the AER's WACC review, 0.4 to 0.7. For instance, using a monthly estimation interval, the average (median) equity beta estimates were in the range 0.45 to 0.47 (0.42 to 0.44). Using a weekly estimation interval, the average (median) equity beta estimates were in the range 0.44 to 0.60 (0.34 to 0.49).[224]

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216 The core analysis was completed by Olan Henry of the University of Melbourne in two reports commissioned for the AER, *Final decision: WACC review*, May 2009. Source documents are O. Henry, *Econometric advice and beta estimation*, 28 November 2008 and O. Henry, *Estimating β*, 23 April 2009

217 The draft decision summarised the key methodological preferences of the AER in the WACC review, and also discussed in detail why APTPPL's contention that the methodology was unreliable was incorrect. AER, *Draft decision,* April 2012, pp. 151, 322–330.

218 The draft decision presented key results from these alternative techniques. It also undertook additional alternative analysis, as suggested by Professor McKenzie and Associate Professor Partington of the University of Sydney in a new consultant report. AER, *Draft decision,* April 2012, pp. 152–155, 320–322.

219 For instance, analysis using different time periods resulted in the equity beta ranges of 0.45 to 0.59 (2002-2008), 0.59 to 0.71 (2003-2008), or 0.50 to 0.69 (1990–2008, excluding the tech boom years 1999–2001). Other permutations included the use of individual or portfolio estimates, different measurement intervals, different regression forms, and consideration of point estimates or confidence intervals. For full details see AER, *Draft decision,* April 2012, pp. 152–155, 320–322.

220 The WACC review itself considered several other equity beta estimates commissioned by parties other than the AER. In particular, this included two reports by the Allen Consulting Group for the Energy Networks Association, Grid Australia and Australian Pipelines Industry Association.

221 These equity beta estimates were presented in more detail in the draft decision. AER, *Draft decision,* April 2012, pp. 155–156. Source documents are separately footnoted.

222 Source document is CEG, *Estimating the cost of capital under the NGR: A report for Envestra*, September 2010, pp. 49–50 (CEG, *Cost of capital for Envestra*, September 2010).

223 Source document is NERA, *Cost of capital for water infrastructure company: Report for the Queensland Competition Authority*, 28 March 2011, pp. 36–37, 60 (NERA, *Cost of capital for water infrastructure*, March 2011).

224 Source document is ERA, *Draft decision: Western Power access arrangement*, March 2012, pp. 186–205.

The AER has a general preference for use of the most recent data available. The AER conducted a thorough empirical analysis of equity beta for Australian energy networks during the WACC review in 2009. The AER notes that more recent analyses of the equity beta (using Australian electricity and gas networks) have been completed, as set out above. The most recent is that conducted by the ERA, which extends the AER's WACC review data set through until October 2011. On the basis of this analysis, the ERA adopted an equity beta of 0.65 in the corresponding regulatory decision.[225] The more recent estimates converge on the same range as the AER's WACC review, 0.4 to 0.7.[226]

The AER considers that there is an extensive pattern of support for an empirical estimate of equity beta between 0.4 and 0.7.

Empirical analysis for alternative data sets (Australian water utilities and overseas energy networks)

The analysis above uses firms that are the closest available to the benchmark, but this is still a relatively small set. One way to obtain additional information is to consider firms that have similar characteristics to the benchmark, noting that this reduces the relevance of the results.[227]

The AER considers that Australian water utilities can be used as a cross check on the equity beta for energy networks. The draft decision considered two expert reports on this issue, and explained the grounds for concluding that there would be comparable exposure to systematic risk (equity beta) across the two industries.[228] Recent regulatory processes run by state regulators received consultant reports that proposed equity beta estimates for Australian water utilities in the range 0.7 to 0.8.[229] In the subsequent regulatory decisions, the state regulators applied equity beta estimates in the range 0.55 to 0.8.[230] The AER considers that this is consistent with the AER's equity beta estimate of 0.8. If anything, this analysis suggests an equity beta of 0.8 might be on the high end of what could be considered reasonable.

The AER considers that overseas electricity and gas networks can also be used as a cross check on the equity beta for Australian energy networks. It is not possible to use this as the primary determinant

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225 See AER, *Final decision: Envestra access arrangement SA*, June 2011, p. 178; ERA, *Draft decision: Western Power access arrangement*, March 2012, pp. 197, 204; AER, *Draft decision,* April 2012, p. 151–152 (including footnote 437), 155–156 (including footnote 444).

226 This leads to a second key issue requiring consultation, which is the extent of imprecision around the equity beta estimates. The AER acknowledges this imprecision as one factor leading it to adopt an equity beta of 0.8, just above the upper bound of the range 0.4 to 0.7. The ERA considered that the empirical range extended from 0.5 to 0.8, but that it was appropriate to apply the midpoint of this range (0.65). See ERA, *Draft decision: Western Power access arrangement*, March 2012, p. 205.

227 The AER has regard to the limitations of these data sets when interpreting these equity beta estimates, and only uses them as cross checks.

228 AER, *Draft decision,* April 2012, pp. 331–333. Source documents are Frontier Economics, *The cross sectoral application of equity betas: energy to water, A report prepared for the Australian Competition and Consumer Commission*, April 2010 (Frontier, *Equity betas: energy to water*, April 2010) and NERA, *Cost of capital for water infrastructure*, March 2011.

229 The expert reports were by SFG (0.7) and NERA (0.8). See AER, *Draft decision,* April 2012, p. 333. Source documents are SFG, *Cost of capital parameters for Sydney Desalination Plant*, 10 August 2011, p. 19–21, 26–27, 38–39 and NERA, *Cost of capital for water infrastructure,* March 2011, pp. 36–37, 60.

230 The state regulators were IPART (0.6–0.8) and QCA (0.55). See AER, *Draft decision,* April 2012, p. 333. Source documents are IPART, *Final report: Review of water prices for Sydney Desalination Plant Pty Limited: From 1 July 2012: Water,* 9 December 2011, pp. 80, 90 and QCA, *Draft report: SunWater irrigation price review: 2012–2017, Volume 1*, November 2011, pp. 385–386.

of the equity beta, because it is not possible to correctly adjust for the differing environment between countries.[231]

The AER considers overseas empirical analysis from a number of different sources.[232] This includes analysis using pre-GFC data (commensurate with the period considered in the WACC review), but also more recent analysis with data periods that end after the GFC.[233] The appendix to this decision sets out the key details of the overseas studies considered and their results. Across all these studies, the range of equity beta estimates for overseas energy networks extends from 0.4 to 1.1. However, the more relevant and reliable results occur in the lower half of this range.[234] These overseas equity betas should not be directly equated with the equity beta for the (Australian) benchmark firm. This is because there is no consensus on the direction or magnitude of an adjustment that would convert overseas equity betas to the Australian environment.[235] Consequently, the AER considers that these overseas estimates are not incompatible with an Australian equity beta estimate range of 0.4 to 0.7.

Overall, after examination of empirical analysis using Australian water utilities and overseas energy networks, the AER considers that this cross check suggests an equity beta below one for a benchmark firm is appropriate and that the AER's 0.8 equity beta is reasonable.

Conceptual analysis

Across all firms in the market, the average firm has an equity beta of 1.0 (by definition).[236] Conceptual analysis considers the position of the equity beta of the benchmark firm relative to the equity beta of the average firm by looking at differences between the benchmark firm and the average firm.[237] Relevant considerations might include the type of business activities undertaken, adoption of different financing structures, or the implementation of different regulatory regimes.[238] These differences might indicate whether the benchmark firm is expected to have an equity beta that is more than, less than or equal to the market average.

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231 AER, *Final Decision: WACC Review*, May 2009, pp. 260–264; see also AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 48, 176–184.

232 This includes expert reports by consultant firms (ACG, CEG, NERA and PricewaterhouseCoopers) and university academics (Olan Henry of the University of Melbourne and Aswath Damodaran of New York University).

233 This latter time period introduces an additional complication, which is that market conditions during the GFC may have little relevance to the determination of the benchmark equity beta. This is of particular concern where the international impact of the GFC differs from the Australian experience. In keeping with this reduced relevance, the AER places less weight on these results. See AER, *Draft decision,* April 2012, pp. 334–335.

234 Specifically, the more relevant results are those that use a longer data period (but ending prior to the GFC), and a larger geographic sample (extending across several countries). The more reliable results are those which implement appropriate econometric techniques after extensive consultation and review (such as the WACC Review).

235 For example, the ESC states that (for a benchmark energy network) US equity betas are above those in Australia, Henry and ACG report that they are roughly equivalent, and CEG considers that US equity betas are below Australian equity betas. See AER, *Draft decision,* April 2012, pp. 331–336.

236 More precisely, the value weighted average across all firms in the market is 1.0. As pointed out by McKenzie and Partington, the equal weighted average may not be 1.0, since larger firms may be unevenly distributed above or below 1.0. See McKenzie and Partington, *Estimation of equity beta*, April 2012, p. 21.

237 Throughout this section, the AER uses the term 'conceptual analysis', matching the term used by SFG, McKenzie and Partington. Similar content has been labelled elsewhere as 'theoretical analysis', which is still correct in broad terms (though some aspects of the conceptual analysis would not technically align with this category description).

238 For clarity, not every difference is relevant to the estimation of equity beta, and so identifying the relevant differences is a core concern of such conceptual analysis.

Considerations at the time of the WACC review

In the WACC review explanatory statement (December 2008), the AER identified the following countervailing factors for the benchmark firm:[239]

- the benchmark firm has higher financial risk than the market average, which suggests an equity beta above 1.0[240]
- however, the benchmark firm also has lower business risk than the market average, which suggests an equity beta below 1.0.

Hence, the conceptual assessment of equity beta is determined by the relative magnitude of these offsetting factors. In the WACC review final decision (May 2009), the AER concluded that the magnitude of these factors was unclear.[241] Therefore, the AER was unable to form a conclusion at that time based on conceptual analysis on the (net) equity beta of the benchmark firm.

Considerations since the WACC review

Since that time, the AER has continued to investigate this issue. For the draft decision, Professor McKenzie and Associate Professor Partington of the University of Sydney provided expert advice on this matter.[242] McKenzie and Partington provided a more detailed explanation of the conceptual factors that should be considered, disaggregating business risk into two further categories, economic risk and operational risk. Their conclusion is that the lower business risk (also labelled intrinsic risk) is likely to outweigh the higher financial and operational risk:[243]

> Taken together, the previous conceptual discussion clearly provides evidence to suggest that the theoretical beta of the benchmark firm is very low. While it is difficult to provide a point estimate of beta, based on these considerations, it is hard to think of an industry that is more insulated from the business cycle due to inelastic demand and a fixed component to their pricing structure. In this case, one would expect the beta to be among the lowest possible and this conclusion would apply equally irrespective as to whether the benchmark firm is a regulated energy network

McKenzie and Partington explained this position with reference to the underlying demand elasticity, the tariff structure and cohort effects within a given industry. They referenced a range of published academic literature, along with several working papers.[244] This supports the conclusion that there are reasons within a conceptual framework to expect that the equity beta for the benchmark firm will be

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239 AER, *Explanatory statement: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, December 2008, pp. 190–195 (AER, *Explanatory Statement: WACC review*, December 2008).

240 The market average equity beta is 1.0 by definition.

241 In the WACC review explanatory statement (December 2008), the AER had concluded that the lower business risk was likely to outweigh the higher financial risk, for a (net) conceptual equity beta expectation below 1.0. However, more evidence became available before the WAC review final decision (May 2009), which led the AER to conclude that the relative magnitudes were indeterminate. See AER, *Explanatory Statement: WACC review*, December 2008, pp. 190–195; and AER, *Final decision: WACC review*, May 2009, pp. 249–254.

242 AER, *Draft decision,* April 2012, pp. 149–151, 315–316.

243 McKenzie and Partington, *Estimation of equity beta*, April 2012, p. 15.

244 McKenzie and Partington, *Estimation of equity beta*, April 2012, pp. 13–15

below 1.0.[245] This advice from McKenzie and Partington supports the AER's equity beta estimate as reasonable.[246]

In its initial access arrangement proposal, APTPPL (and SFG) considered that the appropriate conclusion from the conceptual analysis was that the two offsetting factors (financial risk and business risk) would be equal in magnitude and therefore cancel each other out.[247] SFG emphasised that the resulting conceptual 'starting point' for equity beta should be 1.0, and this should only be departed from if there was robust empirical evidence proving it incorrect. This was an important point for SFG's overall argument, which was that the empirical analysis (which pointed to an equity beta below 1.0) was insufficiently robust to overcome the conceptual analysis (which pointed to an equity beta of 1.0).

Consistent with the draft decision, the AER considers that the argument for a conceptual 'starting point' of 1.0 is weak.[248] APTPPL's consultant, SFG, stated that there was no indication of the size of the offsetting factors.[249] If the relative magnitude of the offsetting effects cannot be determined, the correct conclusion is that conceptual analysis does not suggest a value for equity beta, not that it strongly indicates the equity beta is exactly 1.0.[250] That is, after concluding that the relative magnitude of the offsetting effects cannot be determined, SFG inappropriately assumes they are of equal magnitude and so perfectly offset each other.

Further, in contrast to SFG's analysis, the analysis from McKenzie and Partington indicates that the magnitude of these offsetting factors can be estimated. With this evidence in mind, both the conceptual analysis and the empirical analysis point to an equity beta below 1.0. The APTPPL revised proposal did not respond to the McKenzie and Partington analysis of equity beta.

The AER considers that conceptual analysis indicates its equity beta estimate of 0.8, primarily determined based on empirical analysis, is reasonable.[251]

2.3.5 Debt risk premium

The DRP is the margin above the nominal risk free rate that a debt holder would require in order for it to invest in a benchmark efficient service provider. When combined with the nominal risk free rate, the DRP represents the return on debt and is an input for calculating the WACC.

APTPPL's access arrangement proposal considered the benchmark DRP should be based on an Australian corporate fixed rate bond issuance with a term to maturity of 10 years and a BBB+ credit rating. This benchmark assumption was accepted by the AER in the draft decision and has also been

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245 Noting that conceptual analysis is inherently broad—for example, though it suggests a beta estimate below one, it does not indicate how far below one the estimate should be.

246 To prevent misinterpretation, the primary determinant of the equity beta remains the empirical evidence. As in the draft decision, the AER does not set the equity beta on the basis of the conceptual or theoretical analysis, even where there is a strong conceptual expectation.

247 APTPPL, *Access arrangement submission*, October 2011, pp. 58–59; and SFG, *Equity beta, Report prepared for APT Petroleum Pipelines Ltd*, 11 October 2011, pp. 3, 4, 6, 11–12 (SFG, *Equity beta*, October 2011).

248 For full details of this analysis see AER, *Draft decision*, April 2012, pp. 315–318.

249 SFG, *Equity beta*, October 2011, pp. 3, 4, 6, 11–12.

250 Hence, in the WACC review final decision, the AER concluded that it had no expectation, based on conceptual analysis, of the equity beta for the benchmark firm. In this situation, the equity beta was solely determined by the empirical analysis. AER, *Final decision: WACC review*, May 2009, pp. 249–54

251 This is consistent with the draft decision and the WACC review. See AER, *Final decision: WACC review*, May 2009, pp. 249–254.

adopted by the AER in previous gas decisions. The 10 year term for the cost of debt provides internal consistency with the use of a 10 year risk free rate.

APTPPL proposed estimating the benchmark DRP solely on the Bloomberg BBB FVC. As 7 years is the maximum term currently published for the BBB FVC, the method of extrapolation proposed by APTPPL was based on the shape of the AAA FVC from 7 to 10 years for the most recent data available. The AER's draft decision accepted APTPPL's proposed approach to establishing the DRP. In its revised proposal, APTPPL noted the AER's acceptance in the draft decision of the benchmark and the methodology for estimating the DRP. APTPPL did not suggest any departure from this method in its revised access arrangement proposal. No submissions from stakeholders were received on this issue in response to the AER's draft decision or APTPPL's revised proposal. Therefore, the AER has adopted the extrapolated Bloomberg BBB FVC in its final decision.

The AER estimates the benchmark DRP for APTPPL on the basis of:

- the Bloomberg BBB rated FVC at the 7 year term (the longest term published by Bloomberg)
- the last historical spread between the Bloomberg 7 and 10 year AAA rated FVCs to extrapolate the 7 year DRP estimate to 10 years. [252]

The AER adopts a DRP of 4.06 per cent (effective annual compounding rate), on the above basis.

2.3.6 Forecast inflation

For this final decision, the AER adopts an inflation forecast of 2.55 per cent per annum because it represents the best estimate for a 10 year period.

In the draft decision, the AER accepted APTPPL's proposed methodology for estimating forecast inflation. APTPPL's proposed methodology is consistent with that adopted by the AER in previous regulatory decisions. The AER forecasted an inflation rate of 2.60 per cent per annum based on this approach. The AER stated it would update its inflation forecast based on the latest RBA forecasts for 2012–13 and 2013–14 for the final decision.

Since the AER's draft decision, the RBA has released its May 2012 *Statement on Monetary Policy* which includes updated inflation forecasts for 2012–13 and 2013–14. The AER has therefore used this latest RBA statement to update its inflation forecasts as shown in Table 2.7.

Table 2.7 AER inflation forecast (per cent)

	2012–2013	2013–2014	2014–15 to 2021–2022	Geometric average
Forecast inflation	3,00 [a]	2.50[a]	2.50	2.55

Source: RBA, Statement on Monetary Policy, May2012, p. 67.
Notes: (a) The RBA published a range of 2.5–3.5 per cent for its 2012-13 forecast inflation and a range 2.0 – 3.0 per cent for its 2013–14 forecast of inflation. The AER has selected the mid-point of 3.0 and 2.5 per cent respectively for the purposes of this final decision.

[252] Specifically, the last published historical spread is based on the 20 days prior to 22 June 2010.

2.3.7 Reasonableness checks on overall rate of return

The AER considers that the approach in this decision provides a reasonable estimate of the benchmark WACC. At the same time, the AER recognises that the overall rate of return in this decision is lower than previous decisions. There is no single robust methodology for estimating the overall rate of return. However, the AER's reasonableness checks suggest that the overall rate of return broadly accords with market expectations.

In previous sections the AER evaluates the evidence on each WACC parameter individually, while also taking into account the interdependencies between WACC parameters where relevant. In this section the AER evaluates the overall rate of return that results from the individual WACC parameter values being combined in accordance with the WACC and CAPM formulae. The AER considers that the overall rate of return is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.[253] In turn, the AER considers that the overall rate of return provides a reasonable opportunity for APTPPL to recover at least its efficient costs.[254]

The overall rate of return is unobservable and is determined using market data and finance theory. There are techniques available to assess the overall rate of return, which can produce a range of plausible results. Each of these techniques has weaknesses that prevent them from being given significant weight. Nevertheless, they do provide a useful reasonableness check for the AER's primary approach of using a detailed analysis of the WACC input parameters.

In this section the AER examines:

- assets sales
- trading multiples
- broker WACC estimates
- recent decisions by other regulators and AER historical rates of return
- recent decisions by overseas regulators
- the relationship between the cost of equity and the cost of debt.

These cross checks suggest that the regulated rate of return is not unreasonable.

For this final determination, the AER determines an overall rate of return using a nominal vanilla WACC of 7.31 per cent. This is based on a cost of equity of 7.75 per cent, a cost of debt of 7.01 per cent and a gearing level of 60 per cent.

Trading multiples analysis suggests the overall rate of return has not been unreasonable given market and sales valuations. Also, while the overall rate of return is lower than recent AER decisions, it is in line with recent decisions made by other Australian regulators. The overall rate of return does fall below the range of estimates found in broker reports. However, this is only one of the techniques

253 NGR, rule 87(1).
254 NGL, section 24.

used, and the AER interprets this result with regard to its known limitations and its inherent imprecision.

Recent regulated asset sales

For recent transactions of regulated assets, for which relevant data is available, the AER compares the market value (i.e. the sale price) with the book value (i.e. the regulatory asset base).

Over the past few years, regulated assets have generally been sold at a premium to the RAB. If the market value is above the book value, this may imply that the regulatory rate of return is above that required by investors. Conversely, when the market value is below the book value, this may imply that the regulatory rate of return is below that required by investors.

Caution must be exercised before inferring that the difference indicates a disparity in WACCs, particularly where the difference is small. A range of factors may contribute to a difference between market and book values. A RAB multiple greater than one might be the result of the buyer: [255]

- expecting to achieve greater efficiency gains that result in actual operational and capital expenditure below the amount allowed by the regulator
- increasing the service provider's revenues by encouraging demand for regulated services
- benefiting from a more efficient tax structure or higher gearing levels than the benchmark assumptions adopted by the regulator, and growth options
- expecting to achieve higher returns if regulation is relaxed.[256]

Regulated asset sales in the market are also infrequent allowing limited opportunity to conduct this analysis. This is of particular relevance at present as the AER is setting a lower overall rate of return than in previous decisions. While asset sales in the future may reflect changes to the overall rate of return that are occurring at present, sales that have already occurred will not.

Regulated asset sales do, however, provide a useful real-world indication of whether market participants consider the AER's benchmark WACC to be, broadly speaking, reasonable. The consistent positive trend as discussed below provides evidence that the AER's WACC approach is not unreasonable.

The RAB multiples from each of these transactions, together with the transactions discussed above, are summarised in Table 2.8 from most recent to least recent.

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[255] Each of these reasons assumes the purchasing firm is making a rational purchasing decision. Another reason for a RAB multiple greater than one might be that the purchasing firm misjudged the value of the target assets and paid too much for those assets. Each transaction considered by the AER involved sophisticated investors with significant knowledge of the industry. Accordingly, the AER does not consider it likely that the RAB multiples greater than one result from poor valuations of the target assets.

[256] Grant Samuel & Associates Pty Limited, *Financial Services Guide and Independent Expert Report in relation to the Recapitalisation and Restructure of Babcock and Brown Infrastructure*, 9 October 2009, p. 77 (Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009).

Table 2.8 Selected acquisitions – RAB multiples

Date	Acquirer	Entity/Asset acquired	RAB multiple (times)
Dec 2011	Marubeni Corp/RREEF	Allgas	1.20
Dec 2011	Marubeni Corp/RREEF	Allgas	1.02
July 2011	ATCO	25.9% of West Australian Gas Networks	1.20
July 2011	DUET	20% of Multinet Gas	1.13
July 2011	DUET	20% of Dampier to Bunburry Natural Gas Pipeline	0.95[257]
Dec-06	APA	Directlink	1.45
Oct-06	APA	Allgas	1.64
Aug-06	APA	GasNet	2.19
Apr-06	Alinta	AGL Infrastructure assets	1.41-1.52
Mar-06	APA	Murraylink	1.47

Source: DUET[258], APA[259], Grant Samuel, AER calculations.

In October 2010, Envestra purchased Country Energy's NSW gas network at a multiple of 1.25 times the 2010 RAB.[260] Further details on this transaction can be found in the AER's draft decision for the QLD/SA gas distribution networks.[261]

In July 2011, DUET sold its 25.9 per cent stake in West Australian Gas Network (WAGN) to ATCO Ltd in return for a 20 per cent interest in the Dampier to Bunbury pipeline (DBP) and a 20.1 per cent interest in Multinet.[262] These transactions were at multiples of 1.20, 0.95 and 1.13 respectively.

In December 2011, APA divested 80 per cent of its holding of APT Allgas (a gas distributor in South East Queensland) to Marubeni Corporation and RREEF; each acquiring 40 per cent equity stakes.[263]

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257 Dampier to Bunbury Natural Gas Pipeline (DBNGP) presents an unusual case because it is 96% contracted until 2016 under shipper contracts. As the Economic Regulation Authority (ERA) of Western Australia states, these contracts 'are substantially independent of the access terms and reference tariffs established under the access arrangement for the DBNGP.' ERA, *Final decision, Proposed revisions to the access arrangement for the Dampier to Bunbury Natural Gas Pipeline, Submitted by DBNGP (WA) Transmission Pty Ltd*, 31 October 2011, p. 14. For this reason the DBNGP RAB multiple appears to be not driven by regulatory rates of return and does not provide a useful comparison for RAB multiples analysis.

258 DUET, *Presentation to Macquarie Retail Adviser Network*, 12 January 2012, viewed 9 February 2012.

259 APA Group, *Completion of the sale of 80% of Allgas*, 16 December 2011, viewed 10 January 2012, <http://apa.com.au/investor-centre/news/asxmedia-releases/2011/completion-of-the-sale-of-80-per-cent-of-allgas.aspx>.

260 AER, *Final decision: Wagga Wagga natural gas distribution network, 1 July 2010-30 June 2015*, March 2010 and ASX, *Envestra company announcement*, 26 October 2010, viewed 10 January 2012, <http//www.asx.net.au/asxpdf/20101026/pdf/31tcvlnblp4xqc.pdf>.

261 AER, *Draft decision, Envestra draft decision, 1 July 2011-30 June 2015*, 17 February 2011, p. 63.

262 ASX, DUET company announcement, 29 July 2011, viewed 9 February 2012, <http://asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=due&timeframe=Y&year=2011>

263 APA Group, *Completion of the sale of 80% of Allgas*, 16 December 2011, viewed 10 January 2012, <http://apa.com.au/investor-centre/news/asxmedia-releases/2011/completion-of-the-sale-of-80-per-cent-of-allgas.aspx>.

APA stated that net funds released from the sale were $477 million after transaction costs and the net enterprise value was $526 million.[264] Applying a RAB value, estimated at the sale date, to this enterprise value produces a multiple of 1.20.

This transaction involved the sale of both regulated and unregulated assets. Accordingly the RAB multiple may overstate the premium on the regulated assets as unregulated assets generally require a higher cost of capital.[265]

APA also stated that the sale price was in line with the book value of the assets. The gross sale price was $500.9 million, with the book value of assets sold at $488.8 million.[266] This equates to a multiple of 1.02. These multiples can be considered the upper and lower bound estimates of the RAB multiple for this transaction.

Other historical sales have been at premiums of between 20 and 119 per cent to the regulated asset base.[267]

As Grant Samuel has previously explained, listed infrastructure entities should theoretically trade at, and be acquired at, 1.0 times the RAB.[268] However, nearly all recent asset sales have been transacted at RAB multiples of greater than one.

Acquisition premiums have been substantial and are, as a result, unlikely to be solely explained by the factors noted above. This suggests that the regulated rate of return has been at least as high as the actual cost of capital faced by regulated businesses. Moreover, the consistency of the numbers across many transactions lends support to the conclusion that the regulated rate of return has been at least consistent with the efficient rate of return.

The AER notes that it is not possible to use RAB multiples analysis as an input when assessing individual parameters. The AER does not place any weight on this analysis during that process.

Recent regulated asset sales analysis provides a degree of confidence that the approach used in calculating the rate of return is reasonable. The AER has maintained a largely consistent approach to the calculation of the rate of return since the WACC review and that approach has been maintained for this decision.[269] This suggests the AER's approach in this decision will also provide APTPPL with a reasonable opportunity to recover efficient costs.

Trading multiples

A comparison of the asset value implied by share prices against the regulatory asset base—often expressed as a 'trading multiple'—also provides insight into the required rate of return.[270]

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264 APA Group, *Completion of the sale of 80% of Allgas*, 16 December 2011, viewed 10 January 2012, <http://apa.com.au/investor-centre/news/asxmedia-releases/2011/completion-of-the-sale-of-80-per-cent-of-allgas.aspx>.

265 Allgas is a holding company that also owns the unregulated Moura pipeline and the Gatton-Gympie easement.

266 Net proceeds after transaction costs was $478.4 million, with transaction costs of $22.5 million and a gain on sale of $12.1 million. APA Group, *Interim Financial Report for the half year ended 31 December 2011*, 22 February 2012, p. 3.

267 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 78.

268 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 77.

269 Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

270 The AER has not made any calculations of its own in this section. Trading multiples have only been stated where they could be identified in an external report.

As with regulated asset sales, a trading multiple above one may imply that the market discount rate is below the regulated WACC. The same cautions with interpreting the results of the regulated asset sales approach apply to trading multiples. In addition, this assessment relies on the assumption that share prices reflect the fundamental valuation of the company.

First, Grant Samuel showed in 2009 that trading multiples for listed businesses operating regulated networks have ranged from 1.15 to 1.81 times the RAB as outlined in Table 2.9.[271]

Table 2.9 RAB trading multiples of regulated assets

Entity	Average RAB as at June 2009	Average RAB as at June 2010
SP AusNet	1.50	1.40
Spark	1.81	1.73
DUET	1.21	1.15
Envestra	1.28	1.21

Source: Grant Samuel[272]

Second, recent broker reports have also identified RAB trading multiples. These multiples are consistently greater than one, as shown in Table 2.10 to Table 2.13. None of these multiples are less than or equal to one.

Where possible, these multiples have been updated using more recent reports. This is not always possible, however, as the brokers do not always provide these figures.

Table 2.10 JP Morgan—Various report dates in February 2012

Date of report	Company	FY10A	FY11A	FY12E
22 Feb 2012	ENV	1.11	1.20	1.23
17 Feb 2012	DUET	1.33	1.26	1.12
13 Feb 2012	SKI	1.07	1.12	1.05

Source: JP Morgan[273]

271 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 77.

272 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 77.

273 JP Morgan, *Envestra Limited: 1H12 Result Preview*, 22 February 2012, p. 4; JP Morgan, *DUET Group: Transition costs exert downward pressure*, 17 February 2012, p. 8; JP Morgan, *Australian Regulated Utilities 2012 Outlook: Regulatory Clouds Gathering*, p. 19.

Table 2.11 Macquarie—8 November 2011

Company	2011	2012	2013
ENV	1.18	1.16	1.14
DUET	1.07	1.10	1.10
SKI	1.23	1.17	1.13
SPN	1.08	1.15	1.10

Source: Macquarie Group[274]

Table 2.12 Credit Suisse—11 July 2012

Company	Date unspecified
ENV	1.30
DUET	1.14
SKI	1.34
SPN	1.17

Source: Credit Suisse[275]

Table 2.13 Goldman Sachs—6 December 2011

Company	Various dates
SKI	1.15
ENV	1.25
SPN	1.14

Source: Goldman Sachs[276]

Finally, Spark Infrastructure recently released a *Fact Book* showing an unadjusted trading multiple of 1.34 as at 24 February 2012. The *Fact Book* reports that this decreases to 1.10 when adjusted for total revenue excluding customer contributions.[277]

There are also other listed entities that hold regulated assets, such as APA and Hastings Diversified Utilities Fund. These companies are not conducive to RAB multiples analysis because they have a diverse portfolio of assets, sometimes unregulated, which makes it difficult to isolate the RAB.

Each of these figures cannot be considered definitive without careful consideration of the assumptions and methodologies used. They do, however, provide a useful insight into whether market analysts,

274 Macquarie, *DUET Group: Limited RAB growth, At fair value*, 8 November 2011, p. 4.
275 Credit Suisse, *Regulated Utilities Monthly*, 11 July 2012, p. 10.
276 Goldman Sachs, *Reinstating coverage: Prefer SKI, Ahead of APA, ENV & SPN*, 6 December 2011, p. 2.
277 Spark Infrastructure, *2012 Fact Book*, 27 February 2012, p. 9.

and indeed industry analysts, consider the AER's benchmark WACC is appropriate. Importantly, each multiple is calculated after the GFC and also after the AER's WACC review.[278]

Recent comments by Macquarie in a broker report also suggest the AER's WACC approach does not under-compensate service providers:

> The importance of the RAB growth reflects our belief there is a sustainable arbitrage beyond the current regulatory period, that justifies paying a premium above RAB for these assets…This arbitrage reflects WACC calculations in the regulatory setting have a degree of conservatism.[279]

Comments made by the AEMC in its recent Directions Paper also lend support to the AER's interpretation of broker reports and suggest the cost of debt may be a driver of the RAB multiple premiums:

> A number of these [broker] reports indicate that the recommended valuations placed on these businesses by the equity analysts assume an ability for the NSPs to raise debt at a rate lower than the cost of debt allowed by the regulator. A number of the reports have indicated that a major reason why they value the NSPs at above their RAB is due to their ability to out-perform their cost of debt allowance. [280]

When coupled with the consistently high multiples shown above, these comments suggest the regulatory rate of return has been at least as high as the actual cost of capital, and may have been in excess of it. The conclusion then is that the AER's approach to setting WACC parameters provides a degree of confidence that the rate of return has been reasonable. It also provides a degree of confidence that the rate of return has allowed service providers a reasonable opportunity to recover at least efficient costs.

As with recent regulated asset sales, the AER notes that it is not possible to use RAB trading multiples analysis as an input when assessing individual parameters. The AER does not place any weight on this analysis during that process.

However, recent regulated asset sales analysis may provide a degree of confidence that the approach used in calculating the rate of return is reasonable. The AER has maintained a largely consistent approach for calculating of the rate of return since the WACC review and that approach has been maintained for this decision.[281] This suggests the AER's approach in this decision will also provide APTPPL with a reasonable opportunity to recover efficient costs. .

Broker reports

Equity analysts publish broker reports on listed companies operating regulated energy networks in Australia. These reports generally include WACC estimates along with a range of information, including analysis of current financial positions and forecasts of future performance.

In several previous decisions, the AER has used the WACC estimates from those broker reports as a reasonableness check on the rate of return determined by the AER through its detailed assessment of each individual parameter. In the Envestra matter, the Tribunal noted the reasons put forward by

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278 While the WACC review has no legal standing under the NGL or NGR, the AER has maintained a largely consistent approach across gas and electricity decisions since the WACC review final decision was published.

279 Macquarie, *DUET Group: Limited RAB growth, At fair value*, 8 November 2011, p. 2.

280 Australian Energy Market Commission, *Directions Paper*, 2 March 2012, p. 108.

281 Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

Envestra that the use of broker WACC estimates was an unreliable methodology. In response, the Tribunal stated:

> It is fair to note that, as to those matters, the AER largely recognised the possible reasons why broker estimates might be unreliable and sought to make adjustments in that light. More importantly. the Tribunal accepts the AER submission that it did not estimate the WACC or the DRP by reference to the broker reports. It used them as a "useful reasonableness check" that its WACC estimate did not produce results which did not broadly accord with a range of market opinions concerning firms that are a reliable proxy to the benchmark firm. Its use of the broker reports was thus an "output" test of the nominal vanilla WACC rather than an input into its calculation of the WACC. [282]

The Tribunal emphasised that its finding that the AER's use of broker WACC estimates did not fall into reviewable error was in the context of the 'limited use' to which the AER applied the broker WACC estimates.[283]

Consistent with its approach in previous decisions, the AER uses broker WACC estimates as a reasonableness check on the overall rate of return.

The limitations of the use of broker WACC estimates include:

- the broker reports generally do not state the full assumptions underlying their analysis, or provide thorough explanations of how they arrive at their forecasts and predictions. As such, caution should be exercised in the interpretation of these broker reports[284]

- the five listed companies considered undertake both regulated and unregulated activities, which are assessed by the brokers in aggregate. However, only the regulated activities are directly relevant to the risk in providing reference services. It is generally considered that the regulated activities of the firms—operation of monopoly energy transmission and distribution networks—tends to be less risky than the unregulated activities they undertake in competitive markets. As the regulated activities tend to be less risky, the return required on these activities could be expected to be less than the return required by these firms as a whole.[285] This means that the overall WACC estimate implied by broker reports may overstate the rate of return for the benchmark firm

- it is generally not clear what assumptions the brokers have relied upon when developing their WACC estimate. Further, variation in WACC estimates suggests that these assumptions are not consistent across the different brokers

- the broker reports do not always provide sufficient information for the AER to calculate a nominal vanilla WACC estimate. Only those brokers who report the WACC in nominal vanilla form or provide sufficient detail to enable conversion to this form were considered. These figures are not necessarily precise estimates of the broker's nominal vanilla WACC, since the AER has relied on its interpretation of the information provided

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282 Australian Competition Tribunal, *Application by Envestra Ltd (No 2)[2012] ACompT 3*, 11 January 2012, paragraph 166.

283 Australian Competition Tribunal, *Application by Envestra Ltd (No 2)[2012] ACompT 3*, 11 January 2012, paragraph 167.

284 In particular, the AER considers that the price and dividend forecasts from these reports do not constitute a sufficiently reliable basis for calculation of an overall rate of return. However, the broker reports do often report discount rates, which are equivalent to the broker's estimate of the WACC for the company.

285 Associate Professor Lally makes this point in relation to dividend growth model (DGM) estimates of the cost of equity which are based on listed regulated energy networks. That is, he states that as the unregulated activities tend to be have higher risk, the estimated cost of equity (based on data which takes into account the entirety of the firm's activities) will tend to overestimate that for its regulated activities. Lally, *Cost of equity and the MRP*, July 2012, p. 14.

- the AER analyses the most recently available broker reports from each of the brokers. However, few brokers have released a report close to this final decision that contains sufficient information for the AER to calculate a nominal vanilla WACC.[286] The AER has therefore relied upon reports from earlier in the year for most brokers as it was not possible to update the WACC estimates for those brokers.

Based on this analysis, Table 2.14 sets out the range for the broker WACC estimates (converted to a nominal vanilla WACC) which is 8.02-10.02 per cent.[287] The nominal vanilla rate of return determined by the AER for APTPPL in this final decision is 7.31 per cent. This is approximately 70 basis points below the range of the broker WACC estimates.

The AER considers that broker WACC estimates do not demonstrate that the overall rate of return, which is based on analysis of individual parameters, is not commensurate with prevailing conditions in the market for funds and the risk involved in providing reference services. For the reasons outlined in the specific parameter sections above, the AER is satisfied this is the case. The broker WACC technique is subject to known limitations and inherent imprecision. Further, the review of broker WACCs is the only aspect of the overall reasonableness check that has indicated a potential concern.

Table 2.14 Broker WACC estimates (per cent)[a,b]

Measure	Minimum	Maximum
Broker headline post-tax WACC	6.76	8.60
Calculated nominal vanilla WACC	8.01	10.02

Source: AER calculations.
a **Issuers of broker reports considered:** Credit Suisse, Goldman Sachs, JP Morgan, Deutsche Bank.
b **Regulated energy networks evaluated in broker reports:** APA , DUET Group, Envestra Limited, Spark Infrastructure Group, SP AusNet.

Recent decisions by other regulators and AER historical rates of return

The AER reviews a range of returns it approved for other gas and electricity service providers and also the rates of return in recent decisions by other Australian regulators. This provides a test of the reasonableness of the rate of return in this determination. Recent rate of return values set by the AER since the WACC review are lower than those previously provided. However, recent decisions by other regulators suggest that these values—and 7.31 per cent in this case—are reasonable.

The rate of return range applied by the AER in recent decisions for other gas and electricity service providers is 8.28 to 10.43 per cent.[288] This range covers gas and electricity decisions made by the

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286 Generally, brokers release in-depth reports that align with the half-yearly reporting schedule for the underlying firms. (Brokers release shorter updates throughout the year, but these are less likely to include WACC information.) For the majority of the energy networks, these half yearly reports are released in February/March and August/September. Hence, there have been relatively few updates of broker WACCs since the draft decision (April).

287 For clarity, the table presents broker reports that extend back to November 2011, but principally from February 2012. Restricting the broker reports to a three month window (from May 2012 onwards) would not materially change the lower bounds of the ranges presented (but would reduce the number of broker WACCs available to just nine broker–firm pairs). The headline post tax WACCs range from 6.76–7.90 per cent, and the calculated nominal vanilla WACCs range from 8.02–9.31 per cent.

288 AER, *Final Decision: Aurora distribution determination*, April 2012; AER, *Final Decision*: *Powerlink Transmission determination 2012-13 to 2016-17*, April 2012 (AER, *Final decision: Powerlink transmission determination, June 2012*; AER *Final Decision: Victorian electricity distribution service providers, Distribution determination 2011-15*, October 2010,

AER since the WACC review was completed in 2009 and includes the Aurora and Powerlink final decisions.

The AER has also considered recent decisions by other regulators giving a rate of return range from 6.45 to 9.08 per cent (converted to nominal vanilla form).[289] The decisions reviewed are shown in Table 2.15 and have been taken from those made in the last 12 months. The WACC of 7.31 per cent applied for APTPPL falls within this range. This suggests that the rate of return for this determination is reasonable and in line with regulatory decisions that have been made in the past year.

Table 2.15 Recent decisions by Australian regulators (per cent)

Regulator	Decision	Date	Nominal vanilla WACC
ACCC	FAD Fixed line services – Final decision	Jul 2011	8.54
ESCV	Metro Access Arrangement – Final decision	Aug 2011	9.08
ACCC	Airservices Australia – Final decision	Sep 2011	8.60
ERAWA	Dampier to Bunbury Pipeline – Final decision	Oct 2011	7.57
QCA	SunWater – Final decision	Nov 2011	7.55
IPART	Sydney Desalination Plant – Final decision	Dec 2011	8.16–8.59[a]
ESCOSA	Advice on a regulatory rate of return for SA Water – Final decision	Feb 2012	8.07
ERAWA	Western Power – Draft decision	Mar 2012	6.45
ESCV	V/Line Access Arrangement – Final Decision	Jun 2012	8.65
IPART	Sydney Catchment Authority – Final decision	Jun 2012	8.16–8.38[a]
IPART	Sydney Water Corporation – Final decision	Jun 2012	8.16–8.38[a]

Notes: For comparative purposes, all WACCs have been converted to the nominal vanilla WACC formulation consistent with the AER's reported figure for APTPPL (which excludes debt raising costs).

(a) Ranges are presented for recent decisions by the IPART where the point estimate (real post-tax or real pre-tax) was not sufficiently disaggregated to allow precise conversion to the correct formulation (nominal vanilla WACC).

p. 519 (AER, *Final decision: Victorian electricity distribution, October 2010)*; AER, *Final Decision: Queensland distribution determination 2010-11 to 2014-15*, May 2010, p. 267 (AER, *Final decision: Queensland distribution determination, May 2010)*; AER, *Final decision: N. T. Gas,* July 2011, p. 80; Australian Competition Tribunal, *Envestra: Annexure A (Part 2), Amended Access Arrangement*, February 2012, p. 13; Australian Competition Tribunal, *APT Allgas: Annexure A, Amended Access Arrangement*, February 2012, p. 17; Australian Competition Tribunal, *NSW Gas Networks: Annexure A, Amended Access Arrangemen*t, June 2011, p. 18; Australian Competition Tribunal, *ActewAGL Gas Distribution Network: Order,* September 2010, p. 2.

289 ACCC, *Final Report: Inquiry to make final access determinations for the declared fixed line services*, July 2011, p. 59; ESCV, *Final Decision: Metro Proposed Access Arrangement*, August 2011, p.87; ACCC, *Final Decision: Airservices Australia price notification*, September 2011, p.7; ERA, *Final Decision: Access Arrangement Information for the DBNGP*, December 2011, p.159; QCA, *Draft Report: SunWater Irrigation Price Review: 2012-17*, Volume 1, November 2011, p. 392; IPART, *Final Report: Review of water prices for Sydney Desalination Plant Pty Limited*, December 2011, p. 80; ESCOSA, *Final Advice: Advice on a Regulatory Rate of Return for SA Water*, February 2012, p. 50; IPART, *Draft Report: Review of prices for Sydney Water Corporation's water, sewerage, drainage and other services*, March 2012, p. 79; IPART, *Draft Report: Review of prices for Sydney Catchment Authority,* March 2012, p. 85; ERA, *Draft decision: Western Power access arrangement*, March 2012, p. 207.

Cost of equity vs. Cost of debt

While not necessarily directly relevant to the overall rate of return, comparing the cost of equity with the cost of debt can provide a useful indication of reasonableness. Consistent with previous decisions,[290] the AER considers that the expected cost of equity should be greater than the expected cost of debt.[291] This relationship holds in this decision.

The AER has prepared a graph showing the cost of equity, cost of debt and WACC over time, using the DRP estimation methodology proposed by APTPPL. This graph shows that the cost of equity has been consistently greater than the cost of debt over the last two years, using the AER's approach in this decision. If the cost of debt had been estimated using the ERA's approach then the difference between the cost of equity and cost of debt would have been greater.

It is also worth noting that this graph clearly shows that a large portion of the change in the overall rate of return can be attributed to the decline in the cost of debt. The fact that the overall rate of return in this decision is lower than in previous decisions does not of itself make it unreasonable. The cost of debt in this decision makes up 60 per cent of the overall rate of return. The AER and APTPPL agree on the approach to determining the cost of debt. Hence, the AER and APTPPL agree that this reduction reflects prevailing conditions in the market for funds and the risk involved in providing reference services. This provides the AER with a degree of confidence that a fall in the overall rate of return, in itself, is not unreasonable.

APTPPL's concerns surround the cost of equity and the extent to which the cost of equity determined by the AER in this decision is lower than that determined in previous decisions. The AER has discussed these concerns in detail in other sections above.

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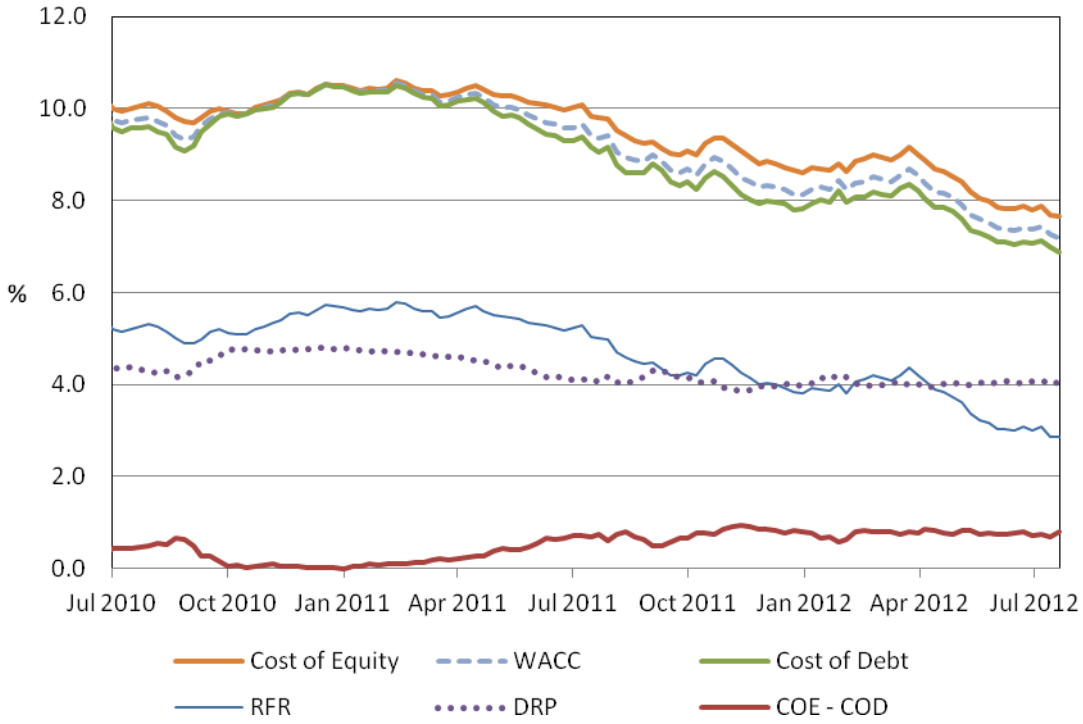
290 AER, *Draft decision: Envestra access arrangement Qld*, February 2011, p. 243; AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 148-149.

291 However, the AER does not consider that the *expected* cost of equity should be greater than the *promised* cost of debt. This critical distinction is explained below.

Figure 2.2 Cost of Debt, Cost of Equity and WACC – AAA FVC approach



Source: Bloomberg, RBA, AER analysis

The conceptual relationship set out above holds when the cost of equity and the cost of debt are expressed in consistent terms—as expected returns. However, there is a distinction between the expected cost of debt and the promised cost of debt:

- the promised cost of debt is calculated by assuming that the bond issuer does not default, and the promised payments of interest and capital occur (in full and on time)
- the expected cost of debt extends this calculation to include consideration of the likelihood of default, where the bond issuer does not make the promised payments of interest and capital[292]
- where there is a non-zero probability of default, the promised cost of debt will exceed the expected cost of debt
- there is no conceptual reason why the expected cost of equity should be greater than the promised cost of debt.[293]

There has been some debate about whether the cost of debt graphed above (and adopted by the AER) reflects the expected or promised cost of debt.[294] The point is inconsequential in current

[292] The basic method is a probability-weighted value calculation. If (for example) there was a 1 per cent chance of default, the calculation would assign 99 per cent weight to the promised yield (when all interest and capital is paid) and 1 per cent to the (much lower) yield arising if the default occurred and interest and capital were not repaid (or paid only in part).

[293] For instance, consider the situation where the expected return on equity is 4 per cent; the promised return on debt is 5 per cent; but there is a non-zero default probability such that the expected return on debt is 3 per cent. There is no problem with the promised return on debt being above the expected return on equity (5 > 4), as long as the expected return on debt is below (4 > 3).

conditions, since under either interpretation the expected cost of debt is below the expected cost of equity.[295] If the cost of debt were to rise above the cost of equity, it would be necessary to carefully examine the cost of debt to ensure that it did not reflect promised returns.

Further, recent advice from the Reserve Bank of Australia (RBA) also touches on the relationship between the cost of debt and the cost of equity.[296] The RBA noted that there was a general increase in the spread between CGS and other Australian-denominated debt securities (i.e. an increase in the DRP). However, the RBA cautioned against directly equating changes in the cost of debt with changes in the cost of equity:

> While it is a reasonably simple matter to infer changes in debt risk premia from market prices, it is less straightforward to do so for equity premia. In making use of a risk free rate to estimate a cost of capital, it is important to be mindful of how the resulting relativity between the cost of debt and that of equity can change over time and whether that is reasonable.[297]

Consistent with this advice from the RBA, the AER is mindful of the relative positions of the cost of debt and cost of equity set in this decision. The AER considers that, since the cost of equity exceeds the cost of debt, this check indicates that the AER's estimates are reasonable.

2.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 2.1:

Make all necessary amendments to reflect the AER's final decision on the rate of return on capital for the access arrangement period, as set out in table 2.1 of this attachment.

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294 See Lally, *The cost of capital for regulated utilities, Report prepared for the Queensland Competition Authority*, 26 February 2004, p. 75 (footnote 74); Lally, *Comments on submissions relating to the QCA's proposed WACC for the SEQ water utilities*, 31 March 2011, pp. 2, 17: Lally, *Cost of equity and the MRP*, July 2012, p. 9.

295 That is, if the cost of debt graphed above (of 7.01 per cent) reflects a promised cost of debt, the expected cost of debt would be even lower.

296 This advice is discussed in appendix B.1.1. RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012.

297 RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012, p. 1–2.

3 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital costs incurred in the provision of pipeline services.[298] Opex therefore represents the ongoing operating costs of APTPPL providing gas transmission services. Opex incorporates labour costs and other non–capital costs associated with operating the RBP.

The AER is required to assess APTPPL's forecast opex to decide whether it is satisfied the forecast opex complies with applicable criteria prescribed by the NGL and NGR. The AER must accept a forecast that is arrived at on a reasonable basis and represents the best forecast or estimate possible in the circumstances.[299]

3.1 Final decision

The AER is not satisfied APTPPL's revised total forecast opex satisfies the opex criteria set out in r. 91 of the NGR. If the AER were to approve APTPPL's opex forecast, the final decision would have resulted in total revenue increasing by around $15.4 million ($2011–12) over the forthcoming access arrangement period.

The AER's opex forecast differs from APTPPL's principally due to the AER not accepting APTPPL's labour cost escalator forecasts. The AER is not satisfied that APTPPL's proposed cost escalators are arrived at on a reasonable basis or represent the best possible estimate or forecast in the circumstances. Labour costs are discussed in confidential appendix E.

In this final decision, the AER:

- revises its forecast opex for APTPPL to operate the RBP8 expansion project
- approves the incorporation of an opex allowance for APTPPL's forecast carbon costs
- does not approve APTPPL's proposed labour and contractor cost escalators.

The AER's final decision on APTPPL's total opex allowance for the access arrangement period is $64.1 million ($2011–12). The AER's final decision on APTPPL's opex is presented in figure 3.1 and table 3.1 below.

Remaining differences between the AER and APTPPL relate predominantly to labour cost forecasting.

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298 NGR, r. 69.
299 NGR, r. 74.

Figure 3.1 AER final decision on APTPPL's opex

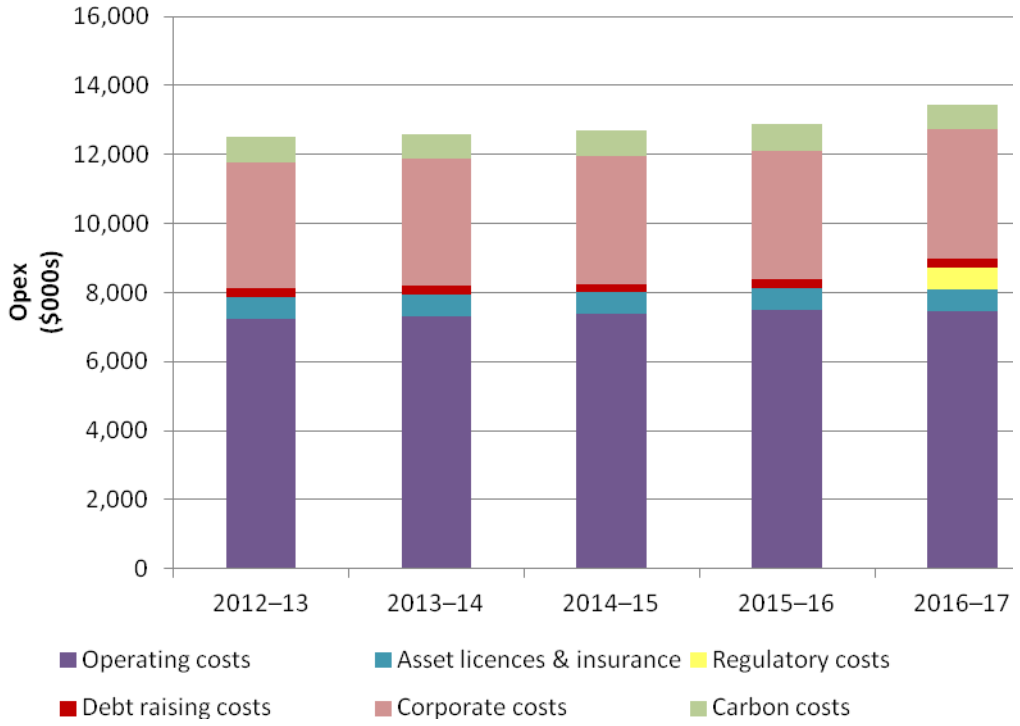

Table 3.1 AER final decision on APTPPL's opex ($million, 2011–12)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Labour	5.3	5.3	5.4	5.4	5.4	26.8
Contractors	0.9	0.9	0.9	0.9	0.9	4.6
Other operating costs	1.1	1.1	1.1	1.2	1.1	5.5
Total controllable opex	7.3	7.3	7.4	7.5	7.5	36.9
Asset licences & insurance	0.6	0.6	0.6	0.6	0.6	3.2
Regulatory costs	0	0	0	0	0.6	0.6
Debt raising costs	0.3	0.3	0.3	0.2	0.2	1.3
Corporate costs	3.6	3.7	3.7	3.7	3.8	18.5
Carbon costs	0.7	0.7	0.7	0.8	0.7	3.7
Total Operating Expenditure	**12.5**	**12.6**	**12.7**	**12.9**	**13.5**	**64.1**

Source: AER analysis.

3.2 Assessment approach

The AER has not changed its assessment approach for opex since its draft decision. The AER's assessment approach for opex is set out in attachment 9 of the AER's draft decision.[300] Where the AER considered additional materials to inform this final decision, these are noted in its reasons for decision.

One of the six written submissions on APTPPL's revised access arrangement made comment on the revised opex. The AER took submissions into account in forming its final decision on APTPPL's proposed opex.

3.3 Reasons for decision

In its revised access arrangement submission, APTPPL proposed total opex of $79.5 million ($2011–12), in response to the AER's draft opex decision of $60.9 million ($2011–12). This is shown in table 3.2.

APTPPL's revised total opex proposal is higher than its access arrangement opex proposal. This is principally driven by the addition of an annual opex allowance for carbon costs and substituted labour cost escalators.

Table 3.2 APTPPL revised opex proposal ($million, 2011–12)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Labour	6.5	6.6	6.8	6.8	7.4	34.1
Contractors	1.1	1.1	1.2	1.2	1.3	5.9
Other operating costs	1.4	1.5	1.5	1.6	1.6	7.6
Total controllable opex	**9.0**	**9.2**	**9.4**	**9.6**	**10.3**	**47.5**
Asset licences & insurance	0.6	0.6	0.6	0.6	0.6	3.2
Regulatory costs[301]	0	0	0	0	0.8	0.8
Debt raising costs	0.3	0.3	0.3	0.3	0.2	1.3
Corporate costs	4.4	4.5	4.6	4.6	5.0	23.0
Carbon costs	0.7	0.7	0.7	0.8	0.7	3.7
Total Operating Expenditure	**15.0**	**15.0**	**15.6**	**15.9**	**17.7**	**79.5**

Source: APTPPL, *Access arrangement revised proposal submission*, May 2012, 53..

300 AER, *Draft decision* April 2012, p. 203.

301 APTPPL's revised submission sets out its proposed opex in table 8.3 on p. 52. Table 8.3 does not incorporate APTPPL's proposed regulatory costs, to be incurred in 2016–17. The AER incorporated APTPPL's regulatory costs from its revised opex roll forward model.

3.3.1 Lytton Lateral

In its draft decision the AER determined that APTPPL's opex roll forward model inappropriately incorporated a Lytton Lateral step change.

In its revised proposal APTPPL confirmed that the Lytton Lateral came into service in June 2010. Associated opex is therefore included in the base year of APTPPL's opex roll forward model.

In the body of its revised proposal document, APTPPL agreed to remove a Lytton Lateral step change from its revised opex roll forward model. However, the revised opex roll forward model submitted by APTPPL retained Lytton Lateral step change costs.[302] The step change in costs for the Lytton Lateral was also included in the total opex proposed by APTPPL. The AER reviewed APTPPL's revised opex roll forward model and removed Lytton Lateral opex step change costs.

3.3.2 Materials cost escalation

The revised opex roll forward model submitted by APTPPL included materials cost escalation for each year of the access arrangement period.[303] The materials cost escalator was identical to APTPPL's proposed labour cost escalator. Materials cost escalation was also included in the total opex proposed by APTPPL.

Incorporation of labour cost escalation was not supported in APTPPL's revised access arrangement submission by a statement of the basis of the estimate, as required by r. 74(1) of the NGR. Further, APTPPL has not proposed expansion capex over the access arrangement period.

The AER considers that materials cost escalation in the context of the RBP access arrangement is inappropriate because expansion capex is not proposed by APTPPL. The AER reviewed APTPPL's revised opex roll forward model and removed materials cost escalation.

3.3.3 RBP8 expansion project

The RBP8 expansion project incorporates six kilometres of new looped pipeline in the Brisbane metropolitan area and installation of a new (second) compressor at Dalby, around 220 kilometres west of Brisbane.

In its access arrangement submission, APTPPL proposed total RBP8 opex over the access arrangement period of $4.4 million ($2011–12). In its draft decision, the AER rejected APTPPL's proposed RBP8 opex forecast on the basis that APTPPL did not provide a rationale for its proposed RBP8 opex forecast as required by r. 74(1) of the NGR.[304] The AER instead estimated opex for RBP8, using a methodology provided by Ross Calvert Consulting.[305] However, the AER's draft decision noted that it did not have sufficient information to incorporate an estimate of the opex associated with the new compressor at Dalby.

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302 APTPPL, *Revised opex roll forward model*, May 2012.

303 APTPPL, *Revised opex roll forward model*, May 2012.

304 AER, *Draft Decision*, April 2012, attachment 9, section 9.4.3, pp. 211-212.

305 Ross Calvert Consulting, *GasNet – Assessment of proposed operating expenditure scope and workload changes*, September 2007.

The AER's draft decision estimate of RBP8 opex incorporated a calculation error. The AER's draft decision incorrectly described actual average RBP per kilometre opex as $45,000 in 2010–11, the most recent year for which full actual costs are available. The correct figure is $22,300 ($2011-12). As such, the AER's draft decision estimate for year 2010–11 should have been $100,350 ($2011–12), rather than $204,000. By extension, the AER's draft decision estimate of RBP8 opex over the access arrangement period should have ranged between $100,000–$200,000, rather than between $200,000–$300,000.

The AER advised APTPPL of the calculation error on 5 July 2012. The AER notes that its corrected draft decision RBP8 opex estimate is consistent with advice from engineering consultancy Wilson Cook, which indicated that efficient opex, excluding compressor costs, would be around $100,000.[306]

APTPPL's revised submission noted the AER's methodology for estimating RBP8 opex, but it did not comment on the appropriateness of that methodology. APTPPL did however provide the AER with Dalby compressor operating cost information.[307] APTPPL's compressor information included labour hours for operational activities and opex estimates based on hourly labour costs.

Following receipt of APTPPL's Dalby compressor operating cost information, the AER requested further information from APTPPL regarding the basis of its proposed labour hours. The AER sought this information to allow it to undertake a reconciliation of APTPPL's proposed labour hours and therefore costs. The AER also sought information from APTPPL regarding current costs associated with each of the six existing compressors operational on the RBP.[308] APTPPL provided this additional information to the AER on 26 July 2012.

Having considered APTPPL's compressor cost information, the AER accepts that APTPPL's proposed compressor operation costs satisfy r. 91 of the NGR. The AER considers the forecast compressor costs are as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

The methodology used by the AER to estimate its final decision RBP8 opex is again based on the Ross Calvert Consulting methodology, which specifies looped pipeline opex should be 75 per cent of stand–alone pipeline opex. The AER's methodology to estimate RBP8 opex is set out below[309]:

- actual RBP opex in 2010–11, adjusted for non–recurrent items, was $9,829,067
- to avoid double–counting compressor opex, the cost of operating the existing six RBP compressors must be removed from the above total actual opex. Compressor opex details provided by APTPPL was used by the AER to adjust 2010–11 total opex[310]
- dividing the compressor cost adjusted 2010–11 actual opex by the RBP's 440 kilometres provides average per kilometre opex of $18,719

306 Wilson Cook report, January 2012.
307 APTPPL, *Revised access arrangement submission*, May 2012, p. 45.
308 APTPPL, *Access arrangement submission*, October 2011, p. 5, lists compressors at Dalby, Kogan, Oakey, Condamine, Yuleba and Gatton.
309 All figures are in $2011–12.
310 APTPPL provided compressor opex details in–confidence.

- to account for reduced travel time and other economies of scale the Ross Calvert Consulting methodology requires average per kilometre opex for looped pipeline to be 75 per cent of stand–alone pipeline opex. This provides adjusted per kilometre opex of $14,039
- multiplying the above figure by the 6 kilometres of the RBP8 expansion, provides $112,312
- to extrapolate the above figure to each year of the access arrangement period, the AER adjusted by the same proportion as APTPPL's year–on–year changes in its proposed compressor operation costs
- the AER added APTPPL's annual Dalby compressor costs to its RBP8 annual cost estimates derived from the above methodology. The result is the AER's estimate of the total RBP8 opex over the access arrangement period
- consistent with the above, the AER's final decision on RBP8 expansion project opex is provided in table 3.3.

Table 3.3 AER RBP8 total opex ($million, 2011–12)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Total	0.4	0.4	0.4	0.4	0.4	2.1

3.3.4 Carbon costs

In its revised access arrangement proposal, APTPPL proposed an annual opex allowance and true–up mechanism to recover carbon costs associated with APTPPL's obligations under the *Clean Energy Act 2011*.

APTPPL's access arrangement proposal did not include carbon costs as opex due to uncertainty over the imposition of a carbon regime.[311] APTPPL instead proposed to recover carbon related costs through a forward looking cost pass through mechanism. The *Clean Energy Act 2011* and associated legislative instruments subsequently received royal assent on 18 November 2011.

The AER did not explicitly address the recovery of carbon costs in its draft decision.

Rule 60(2) of the NGR limits a service provider from making revisions to an access arrangement proposal to those necessary to address matters raised in the AER's draft decision, unless the AER approves further amendments. An example of where the AER may approve further amendments is where there 'is a change in circumstances of the service provider's business since submission of the access arrangement proposal'.[312]

The AER exercises its discretion under r. 60(2) of the NGR to allow APTPPL to revise its proposal to include carbon costs as opex (with an accompanying true-up mechanism). This is because:

311 APTPPL, *Access arrangement submission,* October 2011, p. 104 (second last paragraph).
312 See example under r. 60(2), NGR.

- the Clean Energy Act 2011 and associated legislative instruments received royal assent on 18 November 2011, after APTPPL submitted its access arrangement proposal, and
- APTPPL noted in its October 2011 submission that it had not included carbon costs as opex due to the uncertainty over the imposition of a carbon regime.

APTPPL's revised submission notes:[313]

> The Act introduces a carbon trading scheme in Australia designed to impose a price on carbon emissions from 1 July 2012. The first three years of the carbon pricing scheme has a fixed price path; after that the scheme moves to a floating price period ... APTPPL expects to incur considerable costs in the current access arrangement period associated with purchasing permits to be surrendered to the Clean Energy Regulator under the *Clean Energy Act 2011*.

APTPPL submitted that it forecast its carbon costs using the fixed prices established by the *Clean Energy Act 2011* for 2012–13, 2013–14 and 2014–15. APTPPL calculated its liability on the basis of the methodology set out in the *National Greenhouse and Energy Reporting Act 2007,* based on expected sales volumes and fugitive emissions For 2015–16 and 2016–17 APTPPL based its forecasts on the Australian Treasury's modelled price path[314] provided in the report *Strong Growth Low Pollution – Update*, released 21 September 2011. APTPPL's forecast carbon costs are detailed in table 3.4.

For the reasons set out above, the AER approves APTPPL's proposed opex carbon cost allowance.

Table 3.4 APTPPL opex carbon cost allowance ($million, 2011–12)[315]

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Total RBP carbon cost	0.7	0.7	0.7	0.8	0.7	3.7

Source: APTPPL, *Revised access arrangement submission*, May 2012, p. 47.

In a submission, APG questioned whether APTPPL would meet the carbon unit liability threshold (25 000 tCO2-e) in 2016–17.[316] APTPPL's revised submission indicated that in 2016–17 its carbon unit liability for 'fuel gas emissions' would be 24 063 tCO2-e. However, APTPPL's total 2016–17 carbon unit liability is forecast to incorporate an additional 4 901 tCO2-e for 'fugitive emissions', Therefore, in total, APTPPL's forecast 2016–17 carbon unit liability is 28 964 tCO2-e. The AER is satisfied that on the basis of APTPPL's forecasts, APTPPL would meet the carbon unit liability threshold and therefore incur carbon costs in 2016–17.

The AER approves APTPPL's proposed opex carbon cost allowance. The AER is of the view that APTPPL's carbon cost forecasts satisfy the r. 91 opex criteria.[317] The AER also considers that APTPPL's carbon cost forecasts satisfy r. 74(2) of the NGR – they are arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.

313 APTPPL, *Revised access arrangement submission*, May 2012, p. 46.
314 Treasury, *Strong Growth Low Pollution – Update*, September 2011.
315 Costs for internal labour, contract labour and other operating costs have been removed to retain the confidentiality of APTPPL's labour related funding. These details are provided in confidential appendix E.
316 APG submission to AER, 21 June 2012.
317 NGR r. 91.

3.3.5 Debt raising costs

In its revised proposal, APTPPL adopted the AER's draft decision on debt raising costs and revised its revenue model to reflect this.

The AER's approach to estimating debt raising costs has not changed from the draft decision. Discussion of the approach can be found in that decision.[318]

The AER approves APTPPL's revised proposal to use the AER's standard methodology to estimate debt raising costs. The AER has updated the benchmark debt raising costs for the following:

- unit rate
- capital base and WACC.

For this final decision, the AER estimates benchmark debt raising costs of $1.3 million ($2011–12) for the access arrangement period as shown in table 3.5. This is a slight increase from the amount proposed by APTPPL. The AER considers debt raising costs are in accordance with r. 74 and r. 91 of the NGR and reflect efficient and prudent costs for current market conditions. The updated debt raising costs accord with the AER's accepted calculation method and the updated cost inputs reflect current market conditions.

Table 3.5 AER's final decision on benchmark debt raising costs ($million, 2011–12)

Unit rate	2012-13	2013-14	2014-15	2015-16	2016-17	Total
10.9 bppa	0.3	0.3	0.3	0.2	0.2	1.3

Source: AER analysis.

The AER estimates APTPPL's opening capital base to be $417.6 million. Based on the benchmark 60 per cent gearing, the notional debt component of the capital base is just over $250 million and therefore corresponds to two standard bond issues. During the access arrangement period the notional debt component of the capital base is projected to fall to a level that is consistent with one standard issue. As a result, the AER has used one standard issue for the purposes of calculating the unit rate for APTPPL. This results in a benchmark unit rate of 10.9 basis points per annum.

Using the PTRM, the AER applied the benchmark unit rate to APTPPL's debt component capital base to estimate total debt raising costs of $1.3 million.

3.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 3.1

In APTPPL's opex roll forward model, set the Lytton Lateral step change to zero.

[318] AER, *Draft decision,* April 2012, pp. 205, 213–215.

Revision 3.2

Make all necessary amendments to the opex roll forward model to set the material costs escalator to zero.

Revision 3.3

Make all necessary amendments to the opex roll forward model to reflect the AER's final decision on RBP8 opex as set out in table 3.3 of this attachment.

Revision 3.4

Make all necessary amendments to the PTRM to reflect the AER's final decision debt raising cost as set out in table 3.5 of this attachment.

4 Regulatory depreciation

When determining the total revenue for APTPPL, the AER must decide on the depreciation for the projected capital base (or return of capital).[319] Regulatory depreciation is used to model the nominal asset values over the access arrangement period and the depreciation allowance in the total revenue requirement. The AER's final decision on APTPPL's annual regulatory depreciation allowances—that is, the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base—is outlined in this attachment. The AER's consideration of specific matters that affect the estimate of regulatory depreciation over the access arrangement period is also outlined in this attachment. These include:

- the standard economic lives for depreciating new assets associated with forecast capex
- the remaining economic lives for depreciating existing assets in the opening capital base

4.1 Final decision

The AER does not approve APTPPL's revised proposed forecast regulatory depreciation allowance of $34.8 million ($nominal)[320] for the access arrangement period. This is because the AER does not approve APTPPL's revised proposed capex for the 'PMA' asset class as discussed in appendix C. For this final decision, the AER approves the proposed standard and remaining economic lives for the 'PMA' asset class.

APTPPL's revised proposal adopted the AER's draft decision amendments to the standard economic lives for the 'Easements' and 'RBP expansion 8' asset classes.[321] Therefore, the AER confirms its draft decision to change the standard economic life inputs for the 'Easements' and 'RBP expansion 8' asset classes in the PTRM to 'n/a' and 46 years respectively.

In the draft decision, the AER accepted APTPPL's proposed weighted average method for calculating its remaining economic lives for the majority of its asset classes.[322] However, the AER updated the remaining economic lives using the weighted average method to reflect the required amendments to the opening capital base. The AER also adjusted the remaining economic lives for the 'Easements' and RBP expansion 8' asset classes arising from the changes to the standard economic lives for these asset classes. APTPPL's revised proposal adopted the AER's adjustments to the remaining economic lives of these asset classes.

The AER approves APTPPL's revised proposed remaining economic lives as at 1 July 2012. This is because there was no material change to the updated remaining economic lives, arising from changes to the opening capital base, using the weighted average method accepted in the draft decision.

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319 NGR, r. 76(b).

320 All dollar amounts are in nominal terms in this attachment because regulatory depreciation is an output of the PTRM. The output of the PTRM such as the tax allowance and regulatory depreciation are expressed in nominal dollar terms, whereas the inputs of the PTRM such as forecast opex and capex are expressed in June 2012 real dollar terms.

321 APTPPL, *Revised access arrangement submission*, May 2012, pp.36–37.

322 AER, *Draft decision,* April 2012, p. 111.

The AER's determinations regarding other components of APTPPL's revised proposal also affect the regulatory depreciation allowance. These are discussed in other attachments and include:

- the opening capital base (attachment 1)
- forecast capex (attachment 1)
- forecast inflation (attachment 2).

The AER's final decision on APTPPL's total regulatory depreciation allowance over the access arrangement period is $32.7 million ($nominal). This represents a reduction of $2.1 million ($nominal) or 6.0 per cent of APTPPL's revised proposed total regulatory depreciation allowance. Table 4.1 sets out the AER's final decision on APTPPL's annual regulatory depreciation allowance for the access arrangement period.

Table 4.1 AER final decision on APTPPL's regulatory depreciation allowance for the access arrangement period ($ nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Straight-line depreciation	15.4	16.7	18.1	18.0	17.4	85.5
Less: indexation on opening capital base	10.7	10.6	10.6	10.5	10.4	52.8
Regulatory depreciation	4.8	6.0	7.5	7.5	6.9	32.7

Source: AER analysis.

4.2 Assessment approach

The AER has not changed its assessment approach for regulatory depreciation since its draft decision and so it is not repeated here. See section 4.3 of attachment 4 – Regulatory depreciation – to the draft decision for this detail.[323]

4.3 Reasons for decision

This section sets out the AER's consideration of issues raised in APTPPL's revised access arrangement proposal. These issues include the standard economic life for the 'PMA' asset class and the remaining economic lives of all asset classes for the purposes of depreciating existing assets in the opening capital base.

The AER also sets out its final decision on APTPPL's regulatory depreciation allowance resulting from changes to other components of APTPPL's revised proposal. These are discussed below.

[323] AER, *Draft decision,* April 2012, pp.104 –107.

4.3.1 Regulatory depreciation allowance

The AER's final decision on APTPPL's regulatory depreciation allowance is $32.7 million ($nominal). This represents a reduction of $2.1 million ($nominal) or 6.0 per cent of APTPPL's revised proposed regulatory depreciation allowance.

The AER does not approve APTPPL's revised proposed regulatory depreciation allowance of $34.8 million ($nominal) for the 2012–13 to 2016–17 access arrangement period.[324] This is because the AER's determinations regarding other components of APTPPL's revised proposal impact the proposed regulatory depreciation allowance. These are discussed in other attachments and include:

- the opening capital base (attachment 1)
- forecast capex (attachment 1)
- forecast inflation (attachment 2).

The AER's final decision on the standard economic lives for the purposes of depreciating forecast capex and remaining economic lives for the purposes of depreciating the existing capital base, as discussed below, also impact on the estimate of regulatory depreciation.

4.3.2 Standard economic lives

The AER's draft decision accepted APTPPL's proposed standard economic lives for APTPPL's asset classes, except for the 'PMA', 'Easements' and 'RBP expansion 8' asset classes.[325] This is because the standard economic lives are:

- consistent with the ACCC approved standard economic lives in the earlier access arrangement period
- comparable with the standard economic lives approved in AER's recent access arrangement decisions.

APTPPL's revised access arrangement proposal adopted the AER's draft decision to amend the standard economic lives for the 'Easements' and 'RBP expansion 8' asset classes to 'n/a' and 46 years respectively.[326] However, APTPPL's revised access arrangement proposal included the 'PMA' asset class in the capital base and tax asset base. APTPPL proposed a standard economic life of 12 years be applied to the 'PMA' asset class.[327] This reflects the remaining years that the Agility PMA contract had until expiry as at the end of 2007–08 (the year the contract was terminated when APA acquired Agility).[328] As outlined at appendix C, the AER has approved an amount of expenditure in the 'PMA' asset class. Consequently, the AER needs to determine the appropriate standard economic life for regulatory depreciation purposes in this final decision.

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324 APTPPL, *Revised access arrangement submission – Post tax revenue model*, May 2012, p. 37.
325 AER, *Draft decision*, April 2012, pp. 107–110.
326 APTPPL, *Revised access arrangement submission*, May 2012, pp.36–37.
327 APTPPL, *Revised access arrangement information*, May 2012, p. 9.
328 APTPPL, *Revised access arrangement submission*, May 2012, p. 31.

PMA asset class

The AER accepts APTPPL's revised proposal to assign a standard economic life of 12 years to the 'PMA' asset class. The AER considers that 12 years represents a suitable period over which to depreciate (amortise) the expenditure associated with the PMA contract buyout. APTPPL stated that the PMA expenditure allocated to the RBP represents the margin costs payable to Agility, operational and maintenance cost savings, and is inclusive of foregone tax benefits over the remaining period of the contract of 12 years (to 2020). The AER accepts this and therefore the period of 12 years is considered an appropriate standard economic life to depreciate the expenditure associated with the 'PMA' asset class under r. 89(1)(b) of the NGR.

The AER's final decision on APTPPL's standard economic lives is set out in table 4.2.

4.3.3 Remaining economic lives

The AER approves APTPPL's revised proposed remaining economic lives as at 1 July 2012. The AER's changes to the capex in the earlier access arrangement period and the adjustment for actual inflation affects the value of asset classes in the opening capital base. This has a consequential effect on the calculation of weighted average remaining asset lives. The AER has updated the remaining economic lives using the weighted average method accepted in the draft decision. However, the change to remaining economic lives is not significant across all asset classes.

In the draft decision, the AER accepted APTPPL's proposed weighted average method for calculating its remaining economic lives for the majority of its asset classes.[329] However, the AER updated the remaining economic lives using the weighted average method to reflect the required amendments to the opening capital base. The AER also adjusted the remaining economic lives for the 'Easements' and RBP expansion 8' asset classes. APTPPL's revised proposal adopted the AER's adjustments to these asset classes.[330] For this final decision, the AER has made further adjustments to the opening capital base. However, these adjustments did not materially affect the remaining economic lives. Consequently, the AER accepts the revised proposal remaining economic lives for the final decision.

As discussed in section 4.3.2, the AER has accepted APTPPL's proposed standard economic life for the 'PMA' asset class. The PMA expenditure has been rolled into the capital base during the 2007–08 financial year. Consistent with the approach to depreciating capex in the AER's roll forward model, the PMA has been depreciated over the period of four years from 2008–09 through to 2011–12. This results in a remaining economic life of eight years as at 1 July 2012. Consequently, the AER also accepts the resulting remaining economic life of eight years for the 'PMA' asset class.

The AER's final decision on APTPPL's remaining economic lives is set out in table 4.2.

329 AER, *Draft decision*, April 2012, p. 111.
330 AER, *Draft decision*, April 2012, pp. 111–112.

Table 4.2 AER final decision on standard and remaining economic lives.

Asset class	AER approved standard economic life (years)	AER approved remaining economic life (years)
Original pipeline	60.0	17.0
Looping 1	80.0	56.0
Looping 2	80.0	58.0
Looping 3	80.0	66.0
Looping 4	80.0	69.0
Looping 5	80.0	71.0
Looping 6	80.0	71.0
Lateral	80.0	69.0
Dalby compressor	35.0	5.0
Kogan compressor	35.0	5.0
Oakey compressor	35.0	6.0
Condamine compressor	35.0	7.0
Yuleba compressor	35.0	9.0
Gatton compressor	35.0	10.0
Easements	n/a	n/a
Communications	15.0	4.0
Other	5.0	n/a
Capitalised AA costs	5.0	4.9
Pipelines/laterals	80.0	78.1
Group IT	5.0	4.2
SIB capex	5.0	3.5
PMA	12.0	8.0
Regulators and meters	40.0	35.7
Lytton lateral	80.0	79.0
RBP expansion 8	46.0	46.0

Source: APTPPL, *Revised access arrangement proposal*, *Post-tax revenue model,* May 2012 and AER analysis.

4.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 4.1

Make all necessary amendments to reflect the AER's final decision on the regulatory depreciation for the access arrangement period, as set out in table 4.1 of this attachment.

Revision 4.2

Make all necessary amendments to reflect the AER's final decision on the standard economic lives and remaining economic lives of asset classes for the access arrangement period, as set out in table 4.2 of this attachment.

5 Corporate income tax

When determining the total revenue for APTPPL, the AER must estimate APTPPL's cost of corporate income tax.[331] This attachment sets out the AER's determination on APTPPL's proposed corporate income tax liabilities for the access arrangement period. APTPPL has adopted the post-tax framework to derive its revenue requirement for the access arrangement period.[332] Under the post-tax framework, a separate corporate income tax allowance is calculated as part of the building blocks assessment.

The post-tax revenue model (PTRM) is used to calculate this allowance. This attachment also sets out the analysis of APTPPL's tax asset base, including an assessment of standard tax lives and remaining tax asset lives used for tax depreciation purposes over the access arrangement period.

5.1 Final decision

The AER does not approve APTPPL's revised proposed forecast corporate income tax allowance of $20.9 million ($nominal) for the access arrangement period. This is because of the AER's decision to adjust several of APTPPL's proposed components including the opening tax asset base as at 1 July 2012 (section 1.4.1), the return on capital (attachment 2) and forecast opex (attachment 3). The AER's adjustments result in an estimated cost of corporate income tax allowance of $8.6 million ($nominal) as shown in table 5.1. Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 20.9 per cent for this final decision.

Consistent with the draft decision, the AER accepts APTPPL's proposed method to roll forward the opening tax asset base as at 1 July 2012.[333] However, the AER does not approve APTPPL's revised proposed opening tax asset base of $134.4 million ($nominal) as at 1 July 2012.[334] The AER's final decision on APTPPL's revised proposed capex in the earlier access arrangement period to be rolled into the tax asset base reduces APTPPL's proposed opening tax asset base as at 1 July 2012 by $1.1 million ($nominal). Based on this adjustment, the AER determines APTPPL's opening tax asset base as at 1 July 2012 is $133.3 million ($nominal).

APTPPL's revised proposal adopted the AER's draft decision amendment to the standard tax asset life for the 'Easements' asset class.[335] Therefore, the AER confirms its draft decision to change the standard tax asset life input for the 'Easements' asset class in the PTRM to 'n/a'.

In the draft decision, the AER accepted APTPPL's proposed weighted average method to calculate the remaining tax asset lives as at 1 July 2012. For this final decision, the AER approves APTPPL's revised proposed remaining tax asset lives as at 1 July 2012. This is because there was no material change to the updated remaining tax asset lives, arising from changes to the opening tax asset base, using the weighted average method accepted in the draft decision. The AER also approves the proposed standard and remaining economic lives for the 'PMA' asset class.

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331 NGR, r. 76(c).
332 APTPPL, *Access arrangement information*, October 2011, p. 17.
333 AER, *Draft decision*, April 2012, pp. 116–117.
334 APTPPL, *Revised access arrangement submission*, May 2012, p. 45.
335 APTPPL, *Revised access arrangement submission*, May 2012, p. 36.

Table 5.1 AER final decision on APTPPL's corporate income tax allowance ($m, nominal).

	2012–13	2013–14	2014–15	2015–16	2016–17	Total
Corporate income tax	0.5	2.6	2.8	2.8	2.8	11.4
Less: value of imputation credits	0.1	0.6	0.7	0.7	0.7	2.9
Net corporate income tax allowance	0.4	1.9	2.1	2.1	2.1	8.6

Source: AER analysis.

5.2 Assessment approach

The AER has not changed its assessment approach for corporate income tax since its draft decision and so it is not repeated here. See section 5.3 of attachment 5 – Corporate income tax for this detail.[336]

5.3 Reasons for decision

This section sets out the AER's consideration of issues raised in APTPPL's revised proposal. The AER decision regarding the opening tax asset base as at 1 July 2012 affects APTPPL's revised estimate of corporate income tax. In addition, the forecast corporate income tax allowance is affected by changes to other components of APTPPL's revised proposal. These are discussed below.

5.3.1 Corporate income tax allowance

The AER's final decision on APTPPL's forecast corporate income tax allowance is $8.6 million ($nominal) over the access arrangement period. This represents a reduction of $12.4 million ($nominal) or 59.0 per cent of APTPPL's revised proposed estimate of corporate income tax.

APTPPL used the AER's PTRM to calculate the corporate income tax allowance for each year of the access arrangement period. In estimating its revised corporate income tax allowance, APTPPL used:[337]

- an opening tax asset base of $134.4 million ($nominal) as at 1 July 2012
- an expected statutory income tax rate of 30 per cent per year
- a value for the assumed utilisation of imputation credits (gamma) of 0.25
- the standard tax asset lives and remaining tax asset lives contained in table 3.5 of its Access arrangement information for tax depreciation purposes.

APTPPL proposed a revised total corporate income tax allowance of $20.9 million ($nominal) for the access arrangement period.

336 AER, *Draft decision*, April 2012, pp. 114–116.
337 APTPPL, *Revised access arrangement information*, May 2012, p. 18.

The AER's draft decision accepted APTPPL's method for calculating the corporate income tax allowance, including the expected statutory income tax rate of 30 per cent and the value for the assumed utilisation of imputation credits (gamma) of 0.25.[338]

The AER does not approve APTPPL's revised proposed corporate income tax allowance of $20.9 million ($nominal) for the access arrangement period. This is because the AER's decisions on other components of APTPPL's revised access arrangement proposal have had a consequential effect on the estimated corporate income tax allowance under r. 76(c) of the NGR. These are discussed in other attachments and include:

- the opening capital base (attachment 1)
- rate of return (attachment 2)
- forecast opex (attachment 3).

The AER's final decision on the opening tax asset base, standard tax asset lives, and remaining tax asset lives affects the estimate of tax depreciation. The level of tax depreciation expense affects the amount of taxable income, and therefore the estimate of the corporate income tax allowance.

5.3.2 Opening tax asset base as at 1 July 2012

The AER does not approve APTPPL's revised proposed opening tax asset base of $134.4 million ($nominal) as at 1 July 2012. The AER's final decision on APTPPL's revised proposed capex in the earlier access arrangement period reduces APTPPL's proposed opening tax asset base as at 1 July 2012 by $1.1 million ($nominal). This is because the proposed capex in the earlier access arrangement period, as discussed in attachment 1, is an input for the purposes of rolling forward of the tax asset base to 1 July 2012.

APTPPL's revised access arrangement proposal did not adopt the AER's draft decision capex in the earlier access arrangement period. APTPPL's revised proposed capex included the amount associated with the 'PMA' asset class of $30.1 million ($nominal) in 2007–08. APTPPL's revised proposal updated the 'Group IT' forecast capex for 2011–12 from $0.65 million ($nominal) to $0.60 million. The AER's final decision on APTPPL's proposed capex in the earlier access arrangement period is discussed in attachment 1.

In the draft decision, the AER accepted APTPPL's proposed method for calculating the opening tax asset base as at 1 July 2012. However, the AER did not approve APTPPL's proposed opening tax asset base as at 1 July 2012 because of adjustments to APTPPL's capex in the earlier access arrangement period.[339] The AER's final decision on APTPPL's opening tax asset base as at 1 July 2012 is set out in table 5.2.

5.3.3 Standard tax asset lives

The AER's draft decision accepted APTPPL's proposed standard tax asset lives for its asset classes except for the 'PMA' and 'Easements' asset classes. This is because the approved standard tax asset

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338 AER, *Draft decision,* April 2012, p.116.

339 APTPPL, *Response to information request AER.APTPPL.53*, 9 February 2012, p. 4.

lives are consistent with those prescribed by the Commissioner for taxation in tax ruling 2011/12 and the ACCC approved standard tax asset lives in the earlier access arrangement period.

APTPPL's revised access arrangement proposal adopted the AER's draft decision to amend the standard tax asset life for the 'Easement' asset class to 'n/a'.[340] However, APTPPL's revised proposal included the 'PMA' asset class in the capital base and tax asset base. APTPPL proposed a standard tax asset life of five years for the PMA asset class.[341] As outlined at attachment 1, the AER has approved an amount of expenditure in the 'PMA' asset class. Consequently, the AER needs to determine the appropriate standard tax asset life for tax depreciation purposes in this final decision.

PMA asset class

The AER accepts APTPPL's revised proposal that a standard tax asset life of five years is appropriate for the 'PMA' asset class. In response to an information request, APTPPL advised the AER that the proposed 'PMA' asset class standard tax asset life is based on the relevant period that deductions can be claimed for business related expenditure under section 40-880 of the *Income Tax Assessment Act 1997* (ITAA) .

In determining the appropriate standard tax asset life of the 'PMA' asset class, the AER has had regard to the ATO tax ruling on business related capital expenditure[342] and section 40-880 of the ITAA.[343] The AER considers that the standard tax asset life of five years is appropriate to form an estimate of tax depreciation under r. 74(2) of the NGR.

The AER's final decision on APTPPL's standard tax asset lives is set out below in table 5.2.

5.3.4 Remaining tax asset lives

The AER approves APTPPL's remaining tax asset lives as at 1 July 2012. In the draft decision, the AER accepted APTPPL's proposed weighted average method for calculating the remaining tax asset lives as at 1 July 2012. APTPPL's revised proposed remaining tax asset life for the 'PMA' asset class is one year.

In accepting the standard tax asset life of five years for the 'PMA' asset class, the resulting remaining tax asset life as at 1 July 2012 is one year. The AER considers APTPPL's revised proposed remaining tax asset life for the 'PMA' asset class provides a reasonable estimate of tax depreciation, upon which the cost of corporate taxation is determined under r. 74(2) of the NGR.

The AER's final decision on APTPPL's remaining tax asset lives is set out in table 5.2.

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340 APTPPL, *Revised access arrangement submission*, May 2012, p.36.

341 APTPPL, *Access arrangement submission*, October 2011, p.47.

342 ATO, *TR 2011/6 Income tax: business related capital expenditure – section 40-880 of the Income Tax Assessment Act 1997 core issues*, Viewed on 5 July 2012, http://law.ato.gov.au/atolaw/view.htm?DocID=TXR/TR20116/NAT/ATO/00001#P57.

343 ATO, Income *Tax Assessment Act (ITAA) 1997 – Section 40.880*, viewed on 5 July 2012, http://www.austlii.edu.au/au/legis/cth/consol_act/itaa1997240/s40.880.html.

Table 5.2 AER final decision on APTPPL's tax asset base, standard and remaining tax asset lives

Asset class	AER approved opening tax asset value ($m, nominal)	AER approved standard tax asset life (years)	AER approved remaining tax asset life (years)
Original pipeline	0	20.0	n/a
Looping 1	0	20.0	n/a
Looping 2	0	20.0	n/a
Looping 3	3.3	20.0	6.0
Looping 4	7.3	20.0	9.0
Looping 5	29.5	20.0	11.0
Looping 6	5.3	20.0	11.1
Lateral	10.6	20.0	9.1
Dalby compressor	0.4	20.0	9.5
Kogan compressor	0.1	20.0	5.1
Oakey compressor	0.1	20.0	6.1
Condamine compressor	0.1	20.0	5.1
Yuleba compressor	0.1	20.0	6.0
Gatton compressor	0.1	20.0	3.7
Easements	0.0	n/a	n/a
Communications	0.0	20.0	n/a
Other	0.2	20.0	6.8
Capitalised AA costs	0.6	5.0	4.9
Pipelines/laterals	0.3	20.0	18.3
Group IT	1.6	5.0	4.2
SIB capex	7.0	5.0	3.5
PMA	5.0	5.0	1.0
Regulators and meters	1.0	20.0	15.7
Lytton lateral	8.8	20.0	19.0
RBP8 expansion	51.9	20.0	20.0
Total	133.3	n/a	n/a

Source: AER analysis.

5.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 5.1

Make all necessary amendments to reflect the AER's final decision on corporate income tax allowance for the access arrangement period, as set out in table 5.1 of this attachment.

Revision 5.2

Make all necessary amendments to reflect the AER's final decision on the opening tax asset base as at 1 July 2012, as set out in table 5.2 of this attachment.

6 Capacity utilisation forecasts

This attachment sets out the AER's consideration of APTPPL's revised capacity utilisation forecasts for the access arrangement period. The NGR requires, to the extent it is practicable, that an access arrangement must include a forecast of pipeline capacity and utilisation of pipeline capacity over the access arrangement period and the basis on which the forecast has been derived. APTPPL has submitted revisions to its capacity and capacity utilisation forecasts. The AER has reviewed these revised forecasts under r. 60 of the NGR.

In this attachment, capacity refers to the fixed capacity of the RBP that is available for contracting and utilisation refers to the amount of RBP capacity that is contracted (which can be up to 100 percent of capacity). The capacity utilisation forecast is therefore calculated according to the following equation:

$$\text{Capacity utilisation forecast} = \frac{\text{forecast of total capacity contracted}}{\text{total pipeline capacity forecast}}$$

In this equation, the capacity utilisation forecast can be up to 100 per cent of the pipeline capacity having regard to the constraint imposed by the total capacity of the pipeline.

As in the tariff variation attachment, APTPPL proposes a single reference tariff with components for capacity and throughput. For the purpose of tariff calculation, the numerator in the equation above — the forecast of total capacity contracted—is used to calculate the capacity component of the reference tariffs. Another component of the tariff calculation is the throughput, which refers to the quantity of gas transported from day to day. For the purpose of tariff calculation, this attachment sets out the AER's decision on APTPPL's forecast of total capacity contracted and throughput.

6.1 Final decision

The AER does not approve APTPPL's revised pipeline capacity forecasts.

APTPPL proposed that pipeline capacity will decrease in 2016-17 by 17TJ/day.[344] The AER does not approve the decrease in pipeline capacity in 2016-17. The AER considers that this capacity should remain as part of the total capacity of the RBP. This decision recognises that the 17 TJ/day of capacity which is only available towards the western end of the pipeline remains part of the total capacity of the RBP. Therefore, the AER forecasts that RBP capacity will be 232TJ/day in 2016–17. The RBP capacity forecasts approved by the AER are set out in table 6.1.

The AER does not approve APTPPL's revised capacity utilisation forecasts.

APTPPL proposed that:

- capacity of 4 TJ/day will not be utilised during the AA period and that a further 7 TJ/day will not be utilised in 2016–17.

[344] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

- a particular load (17 TJ/day), located towards the western end of the pipeline will cease taking service in 2016–17, and will therefore not be utilised.[345]

The AER is cognisant of APTPPL's reasons for these forecasts, including that they are based largely on whether APTPPL has firm contracts in place for the transport of gas. However, the AER is not satisfied that these forecasts represent the best forecasts possible in the circumstances. The AER takes the view that a reasonable forecast of capacity utilisation should take into account whether there are any potential users on the existing capacity queue who have recorded an interest in seeking gas haulage contracts with APTPPL when allocations become available. For this reason, the AER has derived alternative capacity utilisation forecasts using an alternative forecasting methodology based on its own market inquiries and information submitted by APTPPL. The AER considers that its forecasts represent better alternative capacity utilisation forecasts as they are arrived at on a more reasonable basis.

The AER's capacity utilisation forecasts also have regard to APTPPL's submission with respect to a particular load (17 TJ/day), located towards the western end of the pipeline. The AER approves APTPPL's forecast that this particular load (17 TJ/day) is expected to cease taking service in 2016–17. The AER is satisfied that APTPPL's forecast of this load is arrived at on a reasonable basis and represents the best forecasts possible in the circumstances.

As a result of the AER's final decision to not approve APTPPL's revised capacity utilisation forecasts, the AER proposes to make revisions to APTPPL's capacity utilisation forecasts. The AER's proposed revisions are set out in table 6.1.

345 APTPPL, *Revised access arrangement submission,* May 2012, p. 11.

Table 6.1 AER final decision on APTPPL's capacity and capacity utilisation forecasts

	2012–13 (forecast)	2013–14 (forecast)	2014–15 (forecast)	2015–16 (forecast)	2016–17 (forecast)
Total pipeline capacity subject to the access arrangement (TJ/day)					
APTPPL's revised proposal	232.0	232.0	232.0	232.0	215.0
AER final decision	232.0	232.0	232.0	232.0	232.0
Total capacity contracted (TJ/day)					
APTPPL's revised proposal	226.7	228.3	228.3	228.3	204.3
AER final decision	227.0	228.0	228.0	230.9	209.9
Uncontracted capacity (TJ/day)					
APTPPL's revised proposal	5.3	3.7	3.7	3.7	10.7
AER final decision	5.3	3.7	3.7	0.8	21.8*
Capacity utilisation forecasts					
APTPPL's revised proposal	97.7%	98.4%	98.4%	98.4%	95.0%
AER final decision	97.8%	98.3%	98.3%	99.5%	90.5%

Source: APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.
* 17 TJ/day of the 22 TJ/day uncontracted capacity is only available at the western end of the RBP.

6.2 Assessment approach

The AER's assessment of APTPPL's revised capacity utilisation forecasts broadly follows the methodology outlined in the AER's draft decision. However, APTPPL's revised forecasts provide for less than 100 percent capacity utilisation of the pipeline. This is due to:

1. Lower forecasts of pipeline capacity in 2016–17

APTPPL's modelling indicates that the capacity of the RBP will fall to 215 TJ/day in 2016–17 as a result of the load located towards the western end of the pipeline being removed to reflect APTPPL's expectation that this capacity will not be sold to another user. APTPPL acknowledged that its previous forecast of RBP capacity for 2016–17 was incorrect. [346]

2. Available capacity forecasts

APTPPL submitted that there is capacity on the RBP that will not be taken up through shipper contracts. This capacity includes:

- 4 TJ/day of capacity that is currently uncontracted and a further 7 TJ/day becoming available in 2016–17

[346] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

- 17 TJ/day, located towards the western end of the pipeline, that APTPPL forecasts will cease taking service upon contract expiry in 2016–17[347]

The AER has therefore conducted further investigations in order to forecast the likelihood of contract renewal by users. These investigations involved:

1. obtaining information from APTPPL which outlines the shippers that are currently on the existing and developable capacity queues and the amount of capacity requested by each user

2. reviewing the shipper contracts obtained by the AER in late 2011

3. conducting market inquiries with existing pipeline users

The AER used this information in reviewing APTPPL's forecasts of available capacity over the access arrangement period. The AER examined the circumstances of particular shippers in order to determine the reasonableness of APTPPL's forecasts.

Under r. 74 of the NGR, a forecast or estimate made in access arrangement information must be arrived at on a reasonable basis and it must represent the best forecast or estimate possible in the circumstances. APTPPL has submitted forecasts and estimates for capacity utilisation based largely on whether it has firm contracts in place for the transport of gas. Where a contract is due to expire during the access arrangement period, APTPPL has assumed in its access arrangement information that it will not be renewed. While this is certainly a possibility, the AER is of the view that this may not be a reasonable basis on which to make forecasts and it may not produce the best forecast or estimate possible. The AER takes the view that a reasonable forecast of capacity utilisation should take into account whether there are any potential users on the existing capacity queue who have recorded an interest in seeking gas haulage contracts with APTPPL when allocations become available.

Accordingly, in order to assess the revised capacity utilisation forecasts, the AER has applied the following method:

1. the AER compared shipper contracts with information about the existing capacity queue. The AER considered that there is a scenario whereby it is reasonable and logical to expect there to be a likelihood that an existing user will seek to recontract to transport the same amount of gas that is coming off contract. This scenario is where an existing user has a contract expiring during the access arrangement period and has entered the existing capacity queue seeking to recontract at the same time

2. similarly, an examination of shipper contracts highlights that shippers with contracts expiring during the access arrangement period do not always protect that allocation with an entry in the existing capacity queue. Where this is the case, the AER considered there to be a likelihood that the existing user will not seek to recontract for the transport of the same amount of gas

3. where a user is coming off contract and has a corresponding entry in the queue for more than the amount of gas coming off contract, the AER has not assumed that the user will take up the additional capacity. Given current uncertainties surrounding gas markets, the AER is of the view that it may not be reasonable to assume that all users will take up additional gas, even though

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[347] APTPPL, *Revised access arrangement submission,* May 2012, p.11.

they have entered the queue to seek an allocation of gas. Nor does the AER consider there to be a strong basis on which to suggest that APTPPL's proposed forecast is not arrived at on a reasonable basis

4. the AER is of the view that this is a reasonable method to employ that will provide the best estimate in the circumstances given that:

   - provisions in the current access arrangement allow APTPPL to confirm with users in the queue that its entry in the queue is still valid. Market inquiries and an examination of shipper contracts have led the AER to the view that all entries in the queue are current
   - similarly, it appears to be legitimate to question whether a user will seek to recontract its capacity upon contract expiry, if it has not joined one of the queues
   - it is unreasonable to expect that all users coming off contract will not recontract, particularly if the respective user has an entry in the queue.

5. the AER then spoke to the relevant users to test the reasonableness of these assumptions.[348]

The AER notes that APTPPL previously conducted a 'reasonableness check' of its demand forecasts by comparing them with the demand forecasts provided in the 2010 Gas Statement of Opportunities (GSOO) forecasts and 2011 Gas Market Review (GMR).[349] The AER notes APTPPL has not followed this approach in the revised access arrangement proposal. The AER considers that information regarding the demand for RBP capacity obtained through its investigations is more up-to-date than the information provided the 2010 GSOO and the 2011 GMR.[350] For this reason and due to APTPPL not following its 'reasonable check' approach in the revised access arrangement proposal, the AER has not relied on the 2010 GSOO and 2011 GMR demand data in assessing APTPPL's revised demand forecasts.

6.3 Reasons for decision

Following the assessment approach set out above, the AER's final decision is to:

- not approve APTPPL's revised forecast that RBP capacity will decrease from 232TJ/day to 215TJ/day in 2016–17.[351] The AER considers that the RBP capacity will be 232TJ/day in 2016–17. However, the AER acknowledges that 17 TJ/day of that capacity will only available at the western end of the pipeline and that this capacity may not be taken up by any user when the existing contract expires

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348 The AER has disclosed the substance of the confidential material obtained through its market inquiries by setting out the method it has employed to incorporate this information. The AER's broad conclusions are based on this information and supported by APTPPL's own revised forecasts.

349 APTPPL, *Access arrangement submission*, October 2011, pp.31–32.

350 The 2011 GMR was published by the Queensland Government. Modelling in this report was conducted by SKM MMA (2011).The 2010 GSOO was published by AEMO. Forecasts in this report were developed using historical and forecast data provided by various industry participants.

351 APTPPL, *Revised access arrangement submission,* May 2012, p. 12.

- not approve APTPPL's revised capacity utilisation forecasts.[352] Based on information obtained through its investigations, the AER considers that some of the available capacity forecast by APTPPL will be taken up by users upon contract expiry.

The AER's proposed revisions to APTPPL's forecasts are set out in section 6.5 below.

The AER's reasons for its final decision on APTPPL's revised access arrangement proposal are discussed below.

The issues considered by the AER

The AER's final decision is arrived at through an assessment of the following three issues from APTPPL's revised proposal:

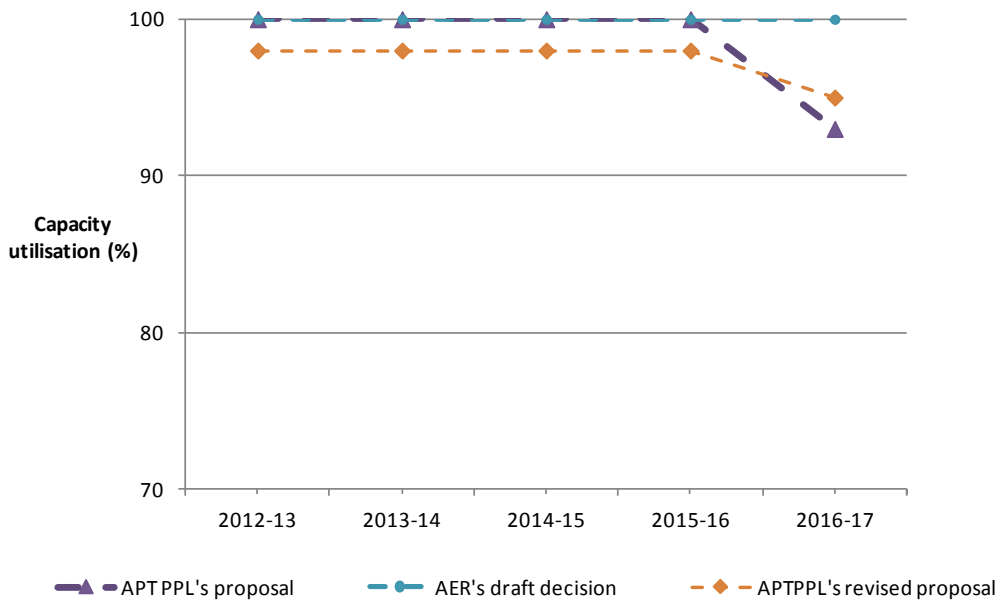
1. forecasts of lower pipeline capacity in 2016–17
2. forecasts of available capacity on the RBP
3. forecast take-up of 17TJ/day of capacity in 2016–17.

APTPPL also submitted confidential information about its capacity utilisation forecasts. A summary of this submission is set out in confidential appendix D.

In line with its forecasts of lower utilisation of the RBP's capacity, APTPPL forecast that the throughput for the RBP will decrease over the access arrangement period. Figure 6.1 compares the capacity utilisation forecasts provided in APTPPL's proposal, revised proposal, and the AER's draft decision. Figure 6.2 compares the throughput forecasts provided in APTPPL's proposal, revised proposal, and the AER's draft decision.

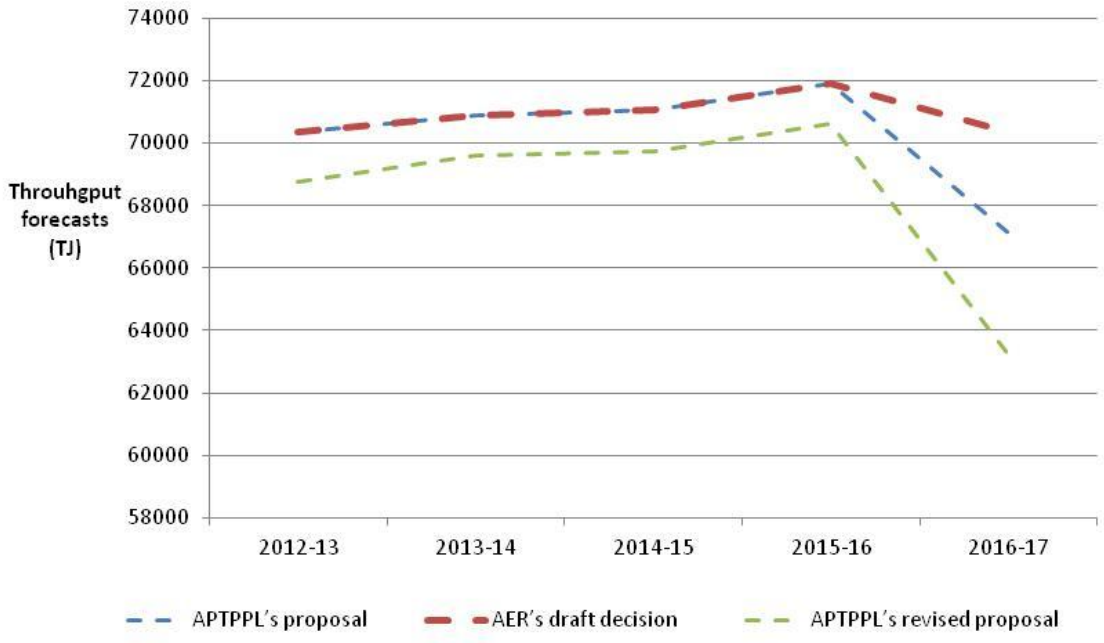
[352] APTPPL, *Revised access arrangement submission,* May 2012, p. 12.

Figure 6.1: Capacity utilisation forecasts



Source: APTPPL, *Access arrangement information*, October 2011, p. 11; ***AER's draft decision***, p. 16; APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis based on

Figure 6.2 Throughput forecasts



Source: APTPPL, *Access arrangement submission*, October 2011, p. 29; AER, *Draft decision*, April 2012, p. 16; APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.

6.3.1 Forecasts of lower pipeline capacity in 2016–17

The AER does not approve APTPPL's revised forecast that the RBP capacity will decrease from 232TJ/day to 215TJ/day in 2016–17. The AER notes that APTPPL's forecast of lower RBP capacity

for 2016–17 is based on the following submission about a user located towards the western end of the RBP.

> The nature of pipeline flow dynamics is such that, if that load were to fall away, there would not be any capacity "freed up" for other users to take supply at other points along the pipeline.[353]

APTPPL does not expect this particular user to renew its contract upon its expiry in 2016–17.[354]

The AER considers that the circumstances submitted by APTPPL affect forecasts of total capacity contracted on the RBP, rather than forecasts of RBP capacity. As noted earlier, the AER defines the total capacity of a pipeline to be the fixed capacity that is available for contracting. Forecasts of the total capacity are determined by the current and future construction of the pipeline. Therefore, the forecast pipeline capacity should be arrived at independently of the forecast total capacity contracted.

The AER notes that the RBP presently has the capacity to supply 232TJ/day (following completion of the RBP8 expansion project). RBP capacity should be the ability of the pipeline to supply users at any receipt or delivery point. Accordingly, the AER considers that forecasts of RBP capacity should include the 17TJ/day of capacity located towards the western end of the pipeline as this is an intrinsic part of the pipeline. This inclusion also reflects the ability of the RBP to supply a user (existing or potential) at the western end of the pipeline, even if that capacity may not be taken up.

The AER's decision results in forecasts of RBP capacity remaining at 232TJ/day in 2016–17. The AER's proposed revision to APTPPL's capacity forecast is set out in table 6.2 below.

The AER made its decision after reviewing APTPPL's hydraulic load flow modelling analysis, which indicated that the pipeline pressure at the Ellen Grove gate station is the same with or without the load located towards the western end of the RBP.[355] The AER's decision also took into account APTPPL's submission regarding whether any connection or other pipeline assets will become redundant if the user's connection located towards the western end of the RBP is removed.[356] The AER's consideration of APTPPL's response is discussed in confidential appendix D of this decision.

The AER considers that APTPPL's submission indicates that inclusion of the 17TJ/day of capacity, located towards the western end of the RBP as part of the total pipeline capacity in 2016–17will not affect the total revenue for that year. Accordingly, the AER has not adjusted the total revenue to reflect its forecast of RBP capacity for 2016–17. Therefore, the AER's decision on the RBP pipeline capacity does not have an impact on the reference tariff services provided on the RBP.

6.3.2 Forecasts of available capacity on the RBP

The AER does not approve APTPPL's revised capacity utilisation forecasts. APTPPL revised the capacity utilisation forecasts from 100 per cent to 98 per cent for 2012–13 to 2015–16 and from 93 per cent to 95 per cent in 2016–17.[357] APTPPL submitted that these revisions are due to negotiations for contracts still taking place for some of the RBP capacity.[358]

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353 APTPPL, *Revised access arrangement submission,* May 2012, p.11

354 APTPPL, *Revised access arrangement submission,* May 2012, p.11

355 APTPPL, *Revised access arrangement submission,* May 2012, p. 11.

356 APTPPL, *Response to information request AER/72 on 5 June 2012, received 20 June 2012*.

357 APTPPL, *Access arrangement information*, October 2011, p. 11; APTPPL, *Revised access arrangement submission,* May 2012, p. 11.

358 APTPPL, *Revised access arrangement submission,* May 2012, pp.10–11.

The AER is of the view that the best forecast in the circumstances is that some of the forecast available capacity will be taken up in the final two years of the access arrangement period, by users currently on the existing capacity queue. The AER accepts APTPPL's forecast that 17 TJ/day of capacity located towards the western end of the pipeline may not be taken up by a user at the end of the current contract in 2016–17.

The AER's consideration followed the AER's assessment approach, outlined in section 6.2 above. The AER reviewed the confidential information submitted by APTPPL regarding the existing and developable capacity queues.[359] This information is contained in the confidential appendix D. The AER also reviewed the shipper contracts submitted by APTPPL,[360] and found that a number of the users on the existing capacity queue also have contracts terminating over the access arrangement period. Information obtained through market inquiries support the view that the best forecast is that some of the available capacity would be taken up by shippers on the queue for the last two years of the access arrangement period.

Consistent with its assessment approach methodology, the AER used information gathered through its market inquiries to arrive at its own forecasts of the total capacity contracted. The AER's forecasts are set out in table 6.2.

Table 6.2 Forecasts of total capacity contracted

	2012–13 (forecast)	2013–14 (forecast)	2014–15 (forecast)	2015–16 (forecast)	2016–17 (forecast)
Total capacity contracted (TJ/day)					
APTPPL's revised proposal	226.7	228.3	228.3	228.3	204.3
AER's final decision	227.0	228.0	228.0	230.9	209.9
uncontracted capacity (TJ/day)					
APTPPL's revised proposal	5.3	3.7	3.7	3.7	10.7
AER's final decision	5.3	3.7	3.7	0.8	21.8

Source: APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.

The AER's proposed revisions to APTPPL's forecasts of total capacity contracted are set out in revision 6.1 in section 6.5. The AER's proposed revisions to APTPPL's revised forecasts of total capacity contracted will reduce the proposed reference tariffs.

Consistent with the AER's capacity requirement forecasts, the AER also proposes revisions to APTPPL's throughput forecasts for the last two years of the access arrangement period as set out in revision 3.2 in section 6.5. The AER's proposed revisions to APTPPL's revised throughput forecasts will reduce the proposed reference tariffs.

The AER's throughput forecasts for the RBP for 2015–16 and 2016–17 are arrived at by following the APTPPL's forecasting methodology.[361] Consistent with the forecasting methodology used to arrive at its original throughput forecast, APTPPL's revised throughput forecasts are calculated based on historical trending of about 83 to 85 per cent of the contractual quantity.[362]The AER notes that the

[359] APTPPL, *Response to information request AER/071 on 5 June 2012, received 20 June 2012*.
[360] APTPPL, *Response to information request AER/066 on 5 June 2012, received 20 June 2012*.
[361] APTPPL, *Response to information request AER/67 of 5 June 2012, received 20 June 2012*.
[362] APTPPL, *Response to information request AER./09 of 16 November 2011*, *received 1 December 2011*.

load factors (which are derived from a ratio of APTPPL's throughput forecast and its forecast of the maximum throughput forecast for the year) fall within this range. The AER's throughput forecasts are derived by applying APTPPL's load factors to the AER's maximum contracted throughput for the year. A breakdown of this information is provided in table 6.3.

Table 6.3 APTPPL's load factor forecasts

	2012–13 (forecast)	2013–14 (forecast)	2014–15 (forecast)	2015–16 (forecast)	2016–17 (forecast)
APTPPL's load factor	83.1%	83.5%	83.7%	84.7%	84.8%
Load factor derived from:					
APTPPL's forecast of total capacity contracted (TJ/day)	226.7	228.3	228.3	228.3	204.3
APTPPL total capacity contracted (TJ/day) * 365 days	82747.3	83331.3	83331.3	83331.3	74571.3
APTPPL's throughput forecast	68755.0	69604.0	69752.0	70607.0	63222.0
AER throughput forecast (TJ) (applying APTPPL's load factors)	68755.0	69604.0	69752.0	71409.5	64953.4

Source: APTPPL, *Revised access arrangement submission*, May 2012, p.12; AER analysis.

6.3.3 Forecast take-up of 17TJ/day of capacity in 2016–17

The AER approves APTPPL's forecast that a particular load (17/day), located towards the western end of the pipeline was expected to cease taking service in 2016–17. The AER's consideration of this matter is set out in the confidential appendix D.

The AER is satisfied that APTPPL's forecast of this load is arrived at on a reasonable basis and represents the best forecasts possible in the circumstances.

6.4 Other matters relevant to the AER's final decision:

In its revised access arrangement proposal, APTPPL provided revised capacity and utilisation forecasts for 2012–16 despite the AER approving APTPPL's original 2012–16 forecasts in its draft decision. This raises the question of whether the AER is required to review APTPPL's revised forecasts in its final decision.

In its draft decision, the AER rejected APTPPL's characterisation of the RBP network and the capacity of the pipeline that would be subject to coverage by the access arrangement.[363] The AER required APTPPL to amend its access arrangement proposal to change the definition of 'Existing Capacity' so that it referred to the capacity of the covered pipeline as at the commencement of the 2012–13 to

[363] AER, *Draft Decision*, April 2012, p. 12.

2016–17 access arrangement period.[364] This amendment means that pipeline services offered over the 29TJ of additional capacity provided by the Lytton Lateral and RBP8 expansion project will be subject to the terms of the access arrangement and used in calculating the reference tariff. APTPPL adopted this revision in its revised access arrangement.

The AER recognises that the characterisation of the RBP network is a fundamental input to the determination of capacity utilisation forecasts. For this reason, the AER decided to review APTPPL's revised capacity and utilisation forecasts under rr. 60(1) and (2) of the NGR. These rules outline that:

> Rule 60 of the NGR:
>
> (1) The service provider may, within the revision period, submit additions or other amendments to the access arrangement proposal to address matters raised in the access arrangement draft decision.
>
> (2) The amendments must be limited to those necessary to address matters raised in the access arrangement draft decision unless the AER approves further amendments.

With respect to revisions APTPPL made to its capacity utilisation forecasts, the AER notes that it did not accept APTPPL's characterisation of the RBP network and its total capacity, and required amendment. There were significant differences between APTPPL's proposal and the AER's draft decision concerning the characterisation of the RBP and its TJ capacity.

APTPPL proposed that 'existing capacity' for reference services provided on RBP is 203TJ/day (based on the capacity of the RBP network as at 1 January 2006 – the beginning of the current access arrangement period). This did not include two augmentation projects completed during the current regulatory period, namely the 'Lytton Lateral' and 'RBP8 expansion project', which added a further 29TJ of capacity to the network. APTPPL proposed this capacity as capacity for the provision of negotiated services.

In its draft decision the AER rejected APTPPL's characterisation of the RBP network and its TJ capacity. The AER required APTPPL to amend its access arrangement proposal to change the definition of 'Existing Capacity' so that it referred to the capacity of the covered pipeline as at the commencement of the 2012–13 to 2016–17 access arrangement period. This effectively meant that the extra 29TJ of capacity 'Lytton Lateral' and 'RBP8' expansion project' were to be characterised as 'reference services' and not as 'negotiated services'.

The AER understands that reference services are sold to the 'market-at-large' at a price specified in the access arrangement, and negotiated services are sold to a particular customer at a negotiated price. Therefore, the AER considers it to be logical that demand for these services could be different.

Further, noting that pipeline capacity utilisation is derived using the total capacity, it goes that the capacity utilisation figure (expressed as a percentage) is artificial. Rather, it is determined contingent to the total capacity of the pipeline. Therefore, the AER considers that its draft decision on the capacity utilisation forecasts is not a 'stand-alone' decision.

Accordingly, because a fundamental input to the calculation of pipeline capacity utilisation was amended by the AER in its draft decision, and therefore was a matter 'raised', the AER considers that the capacity utilisation forecast was by inference, also a matter raised in the AER's access

[364] AER, *Draft Decision*, April 2012, p. 12.

arrangement draft decision. The result being that APTPPL is permitted by r. 60(1) of the NGR to submit again on this issue.

With respect to revisions APTPPL made to its forecast of total capacity contracted and throughput forecast, the AER understands that they were also proposed by APTPPL using its characterisation of the RBP network, and its capacity, as a starting point. Accordingly the AER considers it appropriate that APTPPL is permitted by r. 60(1) of the NGR to submit again on these matters.

With respect to revisions APTPPL made to its initial access arrangement proposal concerning RBP's capacity in 2016–17, the AER considers this to be a 'matter raised' by the AER in its draft decision for the purpose of r. 60(2) of the NGR, even though APTPPL's basis for proposing a different pipeline capacity differ from the reasons why the AER required APTPPL to amend its access arrangement proposal. This is because the AER did not accept APTPPL's characterisation of RBP's capacity in its draft decision.

6.4.1 Other matters raised in the AER's draft decision

In its draft decision, the AER assessed the effect on APTPPL's forecasts of an announcement by the Queensland Government and TRUenergy to develop two new gas-fired power stations in Ipswich and in Gladstone. The AER was of the view that this announcement is unlikely to have an impact on APTPPL's capacity utilisation forecasts for the access arrangement period.[365] The AER notes that APTPPL has not submitted information regarding this matter in its revised proposal. However, the AER has received a submission from TRUenergy regarding access to RBP capacity. TRUenergy's submission focused on APTPPL's extension and expansions policy and the queuing policy.[366] The AER's consideration of these concerns is discussed in attachment 9 of this decision.

The AER's draft decision also took into account a recent announcement by Caltex Australia Limited (Caltex Australia) to conduct a half-year review into its Lytton Refinery, currently connected to the RBP. The AER considered there to be insufficient information to gauge the impact of this review on APTPPL's capacity utilisation forecasts. However, the AER noted that APTPPL would have the opportunity to revise its capacity utilisation forecasts when it submitted a revised access arrangement revision proposal for the RBP.[367] APTPPL has not submitted information regarding this matter in its revised proposal.

6.5 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 6.1

Amend the revised access arrangement and revised access arrangement information and make all other necessary changes so as to be consistent with the AER's final decision on capacity utilisation and capacity requirement forecasts as shown in the following table.

365 AER, *Draft decision,* April 2012, p. 99.
366 TRUenergy, *submission to AER,* 27 June 2012.
367 AER, *Draft decision,* April 2012, p. 18.

Revision 6.1 AER's final decision on capacity utilisation and capacity requirement forecasts

(TJ/day)	2012-13 (forecast)	2013-14 (forecast)	2014-15 (forecast)	2015-16 (forecast)	2016-17 (forecast)
Available capacity	5.3	3.7	3.7	0.8	21.8
Total capacity contracted	227.0	228.0	228.0	230.9	209.9
Total capacity	232.0	232.0	232.0	232.0	232.0
Capacity utilisation	**97.8%**	**98.3%**	**98.3%**	**99.5%**	**90.5%**

Source: AER analysis

Revision 6.2

Amend the revised access arrangement and revised access arrangement information and make all other necessary changes so as to be consistent with the AER's final decision on throughput forecasts as shown in the following table.

Revision 6.2 AER's final decision on throughput forecasts

(TJ)	2012-13 (forecast)	2013-14 (forecast)	2014-15 (forecast)	2015-16 (forecast)	2016-17 (forecast)
Total throughput	68755.0	69604.0	69752.0	71410.0	64953.0

Source: AER analysis

APTPPL provided a confidential breakdown of forecast daily capacity and forecast annual throughput by Gas-fired Power Generation (GPG) users and non-GPG users (that is, domestic, commercial and industrial users). The AER's draft decision on forecast daily capacity forecast annual throughput containing a breakdown by GPG and non-GPG users is set out in confidential appendix D.

7 Tariff setting – transmission pipelines

An access arrangement is required to set out how a service provider intends to charge for reference services. The NGR requires that the access arrangement information must include an explanation of the basis for setting reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs.[368] Rules 95(1) and 95(3)(a) of the NGR outline how the tariff for a reference service provided by a transmission pipeline should be determined.

This attachment sets out the AER's consideration of APTPPL's proposed reference tariffs structure and presents the revised tariffs for 2012–13, reflecting the proposed revisions to revenues and capacity utilisation set out by the AER in this decision.

7.1 Final decision

The AER accepts the general methodology proposed by APTPPL for calculating a reference tariff. In particular, the AER accepts the concept of a single reference tariff with components for capacity and throughput. The AER considers that the proposed tariff structure is consistent with r. 95 of the NGR.

A reference tariff must be set for each reference service and, in calculating the tariff, must generate the portion of total revenue referable to the reference service. The AER accepts APTPPL's nominated reference service where all capital and operating costs, and all volumes, are included in the calculation of the reference tariff.

The AER approves APTPPL's proposed increase in other charges and rates as outlined in attachment 1, section 1.4.5 of the draft decision.

However, the AER does not approve the amount of the reference tariff calculated by APTPPL as it does not reflect the building block components as discussed in this final decision. The reference tariff is therefore, not consistent with r. 95 of the NGR. The AER's proposed revision 7.1 is set out below.

7.2 Assessment approach

The AER has not changed its assessment approach for assessing APTPPL's proposed reference tariff since its draft decision, so it is not repeated here. See 1.3 of attachment 1 of the AER draft decision for the details of the assessment approach.[369]

7.3 Reasons for decision

In the draft decision, the AER approved the tariff structure proposed by APTPPL. The AER accepted the concept of a single 'postage stamp' and capacity based tariff given the need to send appropriate pricing signals, to facilitate short term capacity trading and to maximise pipeline utilisation. The AER also accepted APTPPL's proposal of a capacity based tariff with a 95:5 split between capacity and throughput tariff. However, the AER did not approve the reference service to which the tariff applies.

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368 NGR, r. 72(1)(j).

369 AER, *Draft decision,* April 2012, p. 63.

In the draft decision, the AER did not accept the pipeline capacity used in the calculation of the reference tariff. The AER did not agree with excluding costs associated with Lytton Lateral and RBP8 augmentations in determining the costs attributable to reference services. The AER considered that the Lytton Lateral and RBP8 augmentations are part of the covered pipeline and that the pipeline service of gas haulage over the covered pipeline as a whole is the applicable reference service for the access arrangement. The AER required APTPPL to amend the definition of 'Existing Capacity' so that it refers to the capacity of the covered pipeline as at the commencement of the access arrangement.[370] Therefore, the costs associated with the Lytton Lateral and RBP8 augmentations directly attributable to that reference service would be allocated to that reference service.

The AER required that APTPPL make the following amendments in its access arrangement submission:[371]

- demonstrate that revenue is allocated between reference and non-reference services (negotiated) in the ratio in which costs are allocated between reference and non-reference services
- demonstrate that costs are allocated between reference and non-reference services according to r. 93(2) of the NGR
- revise the 2012–13 reference tariffs to a capacity reference tariff ($/GJ of MDQ/day) of $0.5149 and a throughput reference tariff ($/GJ) of $0.0344.

In the draft decision, the AER also required APTPPL to incorporate the various amendments required by the AER in other attachments of the draft decision which affect the inputs used in calculating the tariff (such as the rate of return and lower non-capital costs).[372]

In its revised access arrangement submission, APTPPL has not sought to distinguish the reference and negotiated services for cost allocation purposes. That is, all capital and operating costs, and all volumes, are included in the calculation of the reference tariff. This is consistent with the AER's draft decision required amendment 3.1, in which the AER required APTPPL to amend the definition of 'Existing Capacity' so that it refers to the capacity of the covered pipeline as at the commencement of the access arrangement.[373]

APTPPL revised its access arrangement proposal to respond to the AER's concerns in the draft decision:

- the costs associated with the Lytton Lateral and RBP8 augmentations are allocated to the reference service. No costs are allocated to the non-reference services
- APTPPL has not sought to distinguish the reference and negotiated services for cost allocation purposes. All capital and operating costs are included in the calculation of the reference tariff
- the revenue is allocated between reference and non-reference services (negotiated) in the ratio in which costs are allocated between reference and non-reference services. No revenue is allocated to the non-reference (negotiated) services

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370 AER, *Draft decision*, April 2012, pp. 74–86.
371 AER, *Draft decision*, April 2012, p. 63.
372 APTPPL, *Revised access arrangement submission*, May 2012, p. 55.
373 APTPPL, *Revised access arrangement submission*, May 2012, pp. 54–55.

- the costs are allocated between reference and non-reference services according to r. 93(2) of the NGR. No costs are allocated to the non-reference (negotiated) services.

Amendment 1.2 required APTPPL to revise the 2012–13 reference tariffs as set out in the draft decision.[374] APTPPL submitted that it is unable to directly comply with this required amendment 1.2. Reference tariffs are, by their nature, the culmination of a multitude of decisions made in the process of developing an access arrangement. To the extent that any of those decisions are not finalised, the reference tariff cannot be finalised.[375] The AER accepts this submission.

APG[376] and Origin[377] made submissions on the reference tariff. The AER is of the view that its final decision on the various elements of the access arrangement are likely to address concerns with regards to the APTPPL's proposed reference tariff and its associated price path. These elements include the return on the projected capital base, depreciation, estimated cost of corporate income tax and forecast operating expenditure.[378]

APG and Origin also expressed concerns relating to the imbalance and daily variance allowances and the increase in the daily variance rate as approved by the AER in the draft decision. As outlined in the draft decision, the AER considers that the other charges and rates included in the reference tariff are generally intended as penalties to incentivise users to abide by their scheduled gas takings when using the pipeline and, as such, they are not set on a cost–recovery basis.[379]

The AER is of the view that the establishment of an appropriate incentive structure for other charges and rates is consistent with the NGO. APTPPL has provided confidential information to the AER which shows that these charges do not provide regular consistent revenue to APTPPL. Regardless, the AER will re-assess these charges at the end of the access arrangement period and will reconsider its position in the next regulatory period.[380]

The AER has determined a starting tariff that is 10.6 per cent less than the overall tariff proposed by APTPPL. The tariff includes a capacity reference tariff ($/GJ of MDQ/day) of $0.5289 and a throughput reference tariff ($/GJ) of $0.0354. The reasons for the difference between the APTPPL and AER starting tariff are outlined in the Total Revenue section of the overview.

7.4 Proposed revisions

The AER proposes the following revision to make the revised access arrangement proposal acceptable:

Revision 7.1
Amend the access arrangement submission to:

Revise the 2012–13 reference tariffs to a capacity reference tariff ($/GJ of MDQ/day) of $0.5289 and a throughput reference tariff ($/GJ) of $0.0354.

374 AER, *Draft decision,* April 2012, p. 63.
375 APTPPL, *Revised access arrangement submission*, May 2012, pp. 54–55.
376 APG, *Submission to the AER*, June 2012, p. 1-7.
377 Origin, *Submission to the AER*, June 2012, p. 2.
378 NGR, r. 76.
379 AER, *Draft decision*, April 2012, pp.59–63.
380 AER, *Draft decision*, April 2012, p.62.

8 Tariff variation mechanism

This attachment sets out the AER's consideration of APTPPL's proposed reference tariff variation mechanism. The reference tariff variation mechanism:

- permits building block revenues to be recovered smoothly over the access arrangement period
- accounts for actual inflation
- accommodates other tariff adjustments that may be required, such as for an approved cost pass through event
- sets administrative procedures for the approval of any proposed changes to tariffs.

8.1 Final decision

In this final decision, the AER:

- does not approve automatic annual reference tariff adjustment in the context of delays to a decision being made by the AER
- approves establishment of a forward looking element to cost pass through
- approves removal from the definition of an insurance cap event of the words 'fault or lack of care'
- does not approve APTPPL's carbon cost pass through event, and proposes revisions to the carbon cost pass through event
- does not approve the establishment of an aggregate cost pass through materiality threshold.

8.2 Assessment approach

The AER has not changed its assessment approach for the annual tariff variation and cost pass through mechanisms since its draft decision, so it is not repeated here. See p. 67 of attachment 2 of the AER's draft decision for this detail.[381]

The AER received one submission from APG which referred to tariff variation mechanism issues. The AER considered and gave appropriate weight to submissions received.

8.3 Reasons for decision

In its draft decision the AER did not approve APTPPL's proposed automatic annual tariff variation formula, forward looking element to cost pass through, or the inclusion of the term 'gross negligence/wilful misconduct' in the insurance cap pass through event definition. APTPPL's revised proposal addressed these matters.

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[381] AER, *Draft decision*, April 2012, p. 67.

However, APTPPL's revised access arrangement proposal also sought to establish a new cost pass through event related to carbon costs, as well as an aggregated pass through materiality threshold. These are new matters that have not previously been considered by the AER in the context of this access arrangement proposal process.

8.3.1 Annual tariff variation – automatic tariff variation

In its access arrangement submission APTPPL proposed to establish a provision making its annual tariff variation application take effect automatically on the relevant 1 July should the AER's decision on its application be delayed beyond that 1 July.[382]

In its draft decision the AER did not approve APTPPL's access arrangement proposal to establish an automatic reference tariff adjustment. The AER's reasons related to the potential inefficiencies created by a further tariff variation should the AER's delayed decision require reference tariffs different to those proposed by APTPPL in its annual tariff variation application.

In its revised access arrangement proposal APTPPL maintained its preference for automatic adjustment of reference tariffs as per APTPPL's annual tariff variation application. APTPPL submitted that inclusion of an automatic tariff variation clause would be consistent with the Allgas and Amadeus Gas Pipeline access arrangements.[383] APTPPL also submitted that annual tariff variation is relatively straightforward, being based on a CPI adjustment.

The AER received one submission which referred to tariff variation issues. APG supported the AER's draft decision to not approve APTPPL's proposed automatic tariff adjustment. APG further noted that automatic tariff approval may add to administrative costs in the event that an automatic adjustment occurs but is subsequently not approved by the AER.

In this final decision, consistent with its draft decision, the AER does not approve APTPPL's proposed automatic tariff adjustment.

In reaching its final decision, the AER considered APTPPL's revised access arrangement submission and the submission received from APG. On balance, the AER remains of the view that APTPPL's proposal is inconsistent with r. 97(4) of the NGR which requires that a tariff variation mechanism must give the AER adequate oversight or powers of approval over reference tariff variations. APTPPL's proposal would also give rise to a risk that tariffs may not be efficient, as the AER may ultimately reject the proposed annual reference tariff variation or approve a different variation.

If the AER were to accept APTPPL's proposal, a circumstance may arise whereby APTPPL undertakes a tariff variation without AER approval, only for the AER to then approve a different variation or no variation. In this context, a further variation would be required. This may hold implications for gas transportation contracts struck under the overruled tariff variation, potentially adding to the administrative costs of users. Administrative costs incurred by the AER and APTPPL may also be higher than an efficient tariff path would provide.

Under the AER's preferred approach, if the AER does not approve a tariff variation consistent with the normal timing of a variation, the AER would subsequently approve a tariff variation consistent with

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382 APTPPL, *Revised access arrangement proposal*, May 2012, p. 59.

383 APTPPL, *Revised access arrangement submission*, May 2012, p. 59.

APTPPL's cost recovery, including the time value of money. This does not add any commercial risk to APTPPL.

Therefore, the AER does not approve APTPPL's proposed procedures for oversight and approval of annual tariff variations as they do not meet the requirement of r. 97(4) of the NGR. Further, the proposal may give rise to higher administrative costs than necessary, and would therefore be inconsistent with the NGO.

8.3.2 Forward looking cost pass through

In its draft decision the AER did not approve APTPPL's proposal to permit forward looking cost pass through.

In its revised access arrangement proposal APTPPL maintained its preference for forward looking pass through. APTPPL emphasised in its revised proposal that application of this provision be limited to circumstances where the pass through event(s) has occurred, is reasonably expected to materially increase or decrease the cost of providing reference services, and where the AER retains approval powers.[384]

In this final decision, the AER approves APTPPL's proposal to establish a forward looking element to cost pass through, under limited conditions. The AER reached this decision for the following reasons:

- it may reduce administrative costs and align cost recovery with the time period in which costs are incurred
- sufficient safeguards are established to mitigate risk of inefficient tariffs being established.

The AER accepts that where a pass through event has occurred, such a provision may reduce administrative costs. The AER notes the potential for a single pass through event to impact APTPPL over multiple years. In this circumstance, a single pass through event application may reduce administrative effort by avoiding need for further pass through applications.

A forward looking pass through may also allow costs to be recovered in the same year they are incurred, mitigating cash flow issues which may otherwise be experienced by APTPPL.

Forward looking cost pass through has potential to be used in the context of cost elements such as the Clean Energy Legislative Package, which establishes carbon costs for APTPPL. In this specific case APTPPL chose, and the AER accepted in this final decision, establishment of an opex allowance instead of using pass through provisions. The AER accepts that should similar costs arise in future, such a forward looking pass through provision may provide efficiencies, as described above and as submitted by APTPPL.

The AER considers that APTPPL's proposal retains sufficient safeguards to mitigate risk of inappropriate tariffs being established. Under APTPPL's proposal the AER retains authority to approve cost pass throughs. As such, the AER may consider each forward looking pass through proposal on its merits.

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[384] APTPPL, *Revised access arrangement submission*, May 2012, p. 56.

The AER is of the view that an important element of the forward looking cost pass through provision is the predictability of proposed costs. A high level of confidence in actual costs to be incurred would be required for cost pass through to be approved by the AER in advance of costs being incurred.

For the reasons outlined above, the AER approves APTPPL's proposed forward looking element to cost pass through provisions.

8.3.3 Cost pass through – insurance cap event definition

In its access arrangement submission, APTPPL proposed an insurance cap event definition which varied from those previously approved by the AER in other access arrangement decisions. APTPPL's proposed amendment would in effect establish a lower hurdle for pass through of costs beyond an insurance cap associated with negligence by the service provider. APTPPL sought to allow pass through of costs, unless they were incurred due to APTPPL's 'gross negligence/wilful misconduct'. Other access arrangements specify pass through of costs unless due to the service provider's 'negligence, fault or lack of care'.[385]

In its draft decision the AER did not approve APTPPL's proposed insurance cap event definition. It considered that APTPPL's proposal raised moral hazard issues. Further, that the definition approved in other access arrangements better allocated pipeline operational and commercial risk with the entity most able to manage those risks – APTPPL. The AER's draft decision noted that its preferred definition best reflected the NGO.

In its revised access arrangement proposal APTPPL did not accept the AER's draft decision. While APTPPL accepted the substitution of 'negligence' for APTPPL's proposed 'gross negligence/wilful misconduct', it did not accept the AER's draft decision to also incorporate 'fault or lack of care'. APTPPL submitted that these words are relatively poorly defined in law and it was therefore unclear how the AER would reach a decision on whether a pass through event was the result of APTPPL's fault or lack of care.

In this final decision the AER approves APTPPL's proposed removal of 'fault or lack of care' from the insurance cap definition.

The AER considers that the key test for cost pass through in this instance is 'negligence'. Further, that the concepts of 'fault or lack of care' are likely to be part of a finding of negligence. Therefore, the AER considers that retaining these words in the definition may create unnecessary uncertainty, while not actually expanding the situations that would be covered by the term 'negligence'.

The AER therefore approves APTPPL's proposal to remove 'fault or lack of care' from the insurance cap cost pass through event definition.

8.3.4 Carbon cost pass through event

In its access arrangement proposal, submitted in October 2011, APTPPL raised the issue of carbon costs but submitted that the carbon pricing mechanism was at the time too uncertain to incorporate an opex allowance. As such, APTPPL noted potential to recover carbon costs through a cost pass through event.

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[385] Amadeus Gas Pipeline Access Arrangement 2011–16, p. 17.

Subsequent to APTPPL's access arrangement proposal being submitted, the *Clean Energy Act 2011* received royal assent in November 2011. The *Clean Energy Act 2011* establishes the basis for APTPPL's carbon unit liability.

In its revised access arrangement proposal, submitted in May 2012, APTPPL included an opex allowance for carbon costs.[386] Linked to its proposed opex allowance was a 'true–up' mechanism to adjust reference tariffs for actual costs compared to forecast costs. As part of its true–up mechanism, APTPPL included a 'Carbon cost event' as one of its cost pass through events.[387] This pass-through event would allow APTPPL to pass through higher or lower carbon costs for each year of the access arrangement. The true–up mechanism proposed by APTPPL incorporates two steps:

- a first reference tariff adjustment in the regulatory year after costs are incurred
- a second adjustment in the second year after costs are incurred.

APTPPL's two stage true–up process is driven by the timing of carbon unit acquittal under the framework established by the Clean Energy Legislative Package. Liable entities may not know their final actual carbon unit costs until up to eight months after the end of the regulatory year to which they relate. As proposed by APTPPL, the first true–up would be undertaken using largely estimated carbon costs. The second proposed true–up would be undertaken using actual carbon costs. The second proposed true–up would only be necessary because the first would be undertaken using estimated costs.

In this final decision the AER approves APTPPL's proposed carbon cost opex allowance.[388] However, the AER does not approve APTPPL's proposed two stage carbon cost true–up mechanism. The AER considers that a single true–up, undertaken when full actual carbon costs for a regulatory year are known, reduces complexity and is preferred to the proposed two stage true–up.

The AER notes that under APTPPL's proposed carbon cost pass through event, any over or under recovery of carbon costs will be adjusted for in terms of changes to reference tariffs. In the event that APTPPL's annual actual carbon costs are higher than the opex allowance for a particular year, APTPPL will be able to pass through the additional cost.

In the event that APTPPL's actual carbon costs are lower than the opex allowance, the AER considers it appropriate to make it mandatory for APTPPL to submit a cost pass through event application. The AER requires the access arrangement to be revised to indicate that the Service Provider must seek a negative cost pass through should actual carbon costs be lower than the annual opex allowance in a given year.

The AER also requires that the Carbon cost event definition be revised to specify that a single true–up will occur only when actual carbon cost data can be used for that true-up, precluding the use of estimates. In this regard, the AER's proposed revision is that a single carbon cost true–up take place in the second year after the year carbon costs are incurred.

386 See attachment 3 (opex) of this final decision for a discussion of this issue.

387 APTPPL, *Revised access arrangement proposal* (marked–up), May 2012, p. 16 – 'Carbon cost event'.

The AER notes that APTPPL's proposed carbon cost true–up mechanism, operating through a new carbon cost pass through event, will operate without a materiality threshold. The AER considers that this brings the regulatory approach closer to a 'cost of service' model, whereby service providers incur costs and seeks to pass those costs through to customers. The AER is of the view that this model does little to promote efficiency in service provision. The AER prefers to see the efficient costs of service provision estimated and incorporated into allowed revenues over the access arrangement period. This approach in turn creates incentives for service providers to achieve greater efficiencies.

In light of the above considerations, the AER is generally not in favour of cost pass through events with zero materiality thresholds. The AER prefers to see cost pass through events established with a materiality threshold of one per cent of annual approved revenue. The AER considers that changes in costs which amount to less than one per cent of annual revenue should be managed by service providers as a normal aspect of providing services. In the case of carbon costs, the AER considers that uncertainty around carbon pricing going forward justifies waiving the one per cent materiality threshold. The AER considers this an exception to its preferred approach, applicable in this case due to specific circumstances.

8.3.5 Aggregated cost pass through materiality threshold

APTPPL's access arrangement proposal included a one per cent smoothed approved revenue materiality threshold to apply to individual cost pass through events. The AER approved this approach to the materiality threshold in its draft decision. Under this approach, where individual cost pass through events meet a threshold of one per cent of smoothed approved revenue, the AER may approve cost recovery through reference tariffs.

In its revised access arrangement proposal, APTPPL proposed to vary the cost pass through materiality threshold so that it applies in aggregate, rather than to each pass through event separately. The AER does not approve APTPPL's proposed amendment to the materiality threshold.

In its revised access arrangement proposal, APTPPL submitted that applying the materiality threshold to pass through events separately risks it incurring significant costs in total and that this would be inconsistent with the revenue and pricing principles.[389]

The AER considers that APTPPL's proposal raises a number of issues:

- service providers are limited to making amendments to their access arrangement proposal to those necessary to address matters raised in the draft decision, as set out in r. 60 of the NGR
- the fundamental nature of the proposed change to the materiality threshold and potential for very low cost events to be passed through to RBP users simply because other pass through events have occurred around the same time
- the inconsistency it would introduce with other access arrangements
- the increased administrative burden it would place on both APTPPL and the AER to assess additional cost pass throughs.

[389] APTPPL, *Revised access arrangement submission*, May 2012, p. 60.

The AER considers that r. 60 of the NGR limits the amendments that APTPPL can make to its access arrangement proposal to those necessary to address matters raised in the AER's draft decision, unless the AER approves further amendments.

In its draft decision the AER did not raise concerns over the application of the one per cent materiality threshold that had been initially proposed by APTPPL. Therefore, the AER considers that APTPPL is not permitted to make amendments to its access arrangement proposal to address this matter without AER approval. The AER notes that APTPPL did not seek AER approval before submitting this amendment in its revised access arrangement proposal.

The effect of r. 60 of the NGR is that businesses should address issues as fully as is practicable in their initial access arrangement proposals. If they do not, they face the risk that they will not have the opportunity to amend their proposal at a later stage. Where a matter raised in a proposal is accepted by the AER, the business is excluded from reopening that matter in their revised proposal without obtaining AER approval. In this way, r. 60 of the NGR helps to provide a streamlined and effective administrative decision-making process.

The AER is not obliged to approve further amendments under r. 60(2) of the NGR. If the AER was willing to approve further amendments, as a matter of course, r. 60 of the NGR would be rendered ineffective. The AER is therefore not inclined to approve further amendments under r. 60(2) of the NGR without strong justification from the service provider.

The AER is of the view that a balance is currently achieved between service provider cost recovery, administrative costs and business risks under the materiality threshold as originally proposed. The AER considers that APTPPL's suggested amendments would potentially allow insignificant costs to be passed through to RBP users. This would happen on an inconsistent basis, as such insignificant costs would only be passed through in those years in which there were other pass through events that met the revised materiality threshold. APTPPL's revision to its proposal would increase administrative costs for both APTPPL and the AER.

The AER is therefore of the view that it should not approve further amendments to APTPPL's original proposal on this particular matter, for the purposes of r. 60(2) of the NGR.

The AER also considers that APTPPL's proposal would be a fundamental change to the nature of the cost pass through mechanism. Were the AER to approve this amendment, individual pass through events which have little to no impact on APTPPL's costs of providing reference services may be passed through to RBP users because other pass through events have occurred. The AER is of the view that the initial proposed materiality threshold is well established in practice in regulatory decision-making and is consistent with the revenue and pricing principles.

The AER further considers that were it to approve APTPPL's proposal the RBP access arrangement would be an exception to other gas transmission pipeline access arrangements, including some relevant to APTPPL's parent company APA.[390] The AER notes also that were it to approve APTPPL's proposal, the number of pass through events it would be required to consider may be expected to increase. The AER would expect to incur increased administrative costs associated with processing an increased number of pass through proposals. Equally, APTPPL itself would be expected to incur increased administrative costs in submitting increased numbers of pass through applications.

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[390] Such as the Amadeus Gas Pipeline.

8.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 8.1

Remove the following sentence from section 4.5.5 of APTPPL's proposed revised access arrangement:

If Service Provider proposes adjustments to the Reference Tariffs (other than as a result of a Cost Pass–through Event) and those adjustments have not been approved by the next 1 July, then the reference tariffs will be adjusted with effect from that next 1 July, until such time as adjustments to Reference Tariffs are approved by the AER.

Revision 8.2

Replace the first paragraph under heading 4.5.2 of APTPP's proposed revised access arrangement with:

Subject to the approval of the AER under the National Gas Rules, Reference Tariffs may be adjusted after one or more Cost Pass-through Event/s occurs in which each individual event materially increases or materially decreases, or is reasonably expected to materially increase or decrease, the cost of providing the Reference Service. If a carbon cost event occurs, Service Provider must apply to the AER for a cost pass through if the carbon cost event materially decreases the cost of providing the Reference Service. Any such adjustment will take effect from the next 1 July.

Revision 8.3

Replace the carbon cost pass through event in APTPPL's proposed revised access arrangement with:

Carbon cost event–means:

An event that occurs if, for a given Regulatory Year of the Access Arrangement Period, the total carbon cost incurred (part of which may be an estimate) by Service Provider in complying with the carbon pricing mechanism established under the Clean Energy Act 2011 (Cth) and associated legislation relating to the management of greenhouse gas for that Regulatory Year is higher or lower than the forecast amount for the Regulatory Year set out in table 5.1 of Service Provider's Access Arrangement Information. The carbon cost event is taken to have occurred at the time that it is possible for Service Provider to calculate the carbon costs it has incurred for a Regulatory Year without use of estimation.

Revision 8.4

Replace the first paragraph under heading 4.5.3 of APTPPL's proposed revised access arrangement with:

For the purpose of defined Cost Pass-through Events other than the Carbon Cost Event, costs incurred for an event in a given Regulatory Year (or years) are considered to materially increase or materially decrease costs where the cumulative costs of that event separately have an impact of at least one per cent of the smoothed forecast revenue specified in the Access Arrangement Information, in the years of the Access Arrangement Period that the costs are incurred.

Revision 8.5

Replace the two bullet points in paragraph 10.4.2 of the Access Arrangement Information with the following:

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

9 Non-tariff components

APTPPL's access arrangement proposal sets out terms and conditions that are not directly related to the nature or level of tariffs paid by users, but which are important to the relationship between the network service provider and users. These are referred to by the AER as non-tariff components of the access arrangement.

This attachment sets out the AER's consideration of the non-tariff components of APTPPL's revised access arrangement proposal which are still in contention. These include APTPPL's proposed capacity trading requirements,[391] queuing policy,[392] extension and expansion requirements, and terms and conditions on which the reference service will be provided.

9.1 Final decision

The AER's draft decision accepted the majority of the non-tariff terms included in APTPPL's access arrangement proposal. However, the AER's draft decision required amendments to be made to certain non-tariff terms.

APTPPL's revised proposal adopted some the AER's required amendments in relation to the non-tariff terms that were set out in the draft decision, and the AER received no other industry submissions regarding the amendments. These amendments are A.1, A.12, A.13 and 11.1. The AER's final decision is to approve these non-tariff terms in the revised access arrangement proposal.

APTPPL's revised proposal also adopted the AER's required amendments 11.3 and 11.4 in relation to commencement and review dates. The AER's final decision is to approve APTPPL's commencement and review dates.

APTPPL adopted the AER's required amendment in relation extension and expansion requirements (amendment B.1), although TRUenergy made a submission regarding this term. The AER's final decision is to approve APTPPL's revised proposal in relation to extension and expansion requirements. APTPPL's revised access arrangement did not adopt other required amendments to the non-tariff terms set out in the AER's draft decision. The AER's final decision in relation to these non-tariff terms are briefly summarised below:

Capacity trading requirements

The AER does not approve APTTPL's proposed changes in the wording of clause 5.4 of the capacity trading requirements, and proposes a revision to correct for a minor typographical error.

Queuing requirements

The AER does not approve APTPPL's revised queuing requirements. The AER's assessment approach for APTPPL's revised queuing policy and the AER required revisions are outlined in attachment 10.

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391 NGR, r. 105.
392 NGR, r. 103.

Definitions and terms and conditions for providing the reference service

APTPPL's revised access arrangement proposal has adopted some of the AER's required amendments and proposed modifications to the wording of the relevant clauses, and has rejected others. The AER's assessment and decision on APTPPL's proposed terms and conditions is set out in detail in appendix A and summarised in table 9.1 below.

Table 9.1 APTPPL's response to the draft decision proposed terms & conditions and AER's final decision

AER draft decision - proposed amendments	APTPPL's response	AER consideration
A.1, A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.10, A.11, A.12, A.13, A.14 and A.15.	Adopted amendments A.1, A.12 and A.13.	AER approves APTPPL's revised proposal on A.1*, A.2, A.3, A.4, A.5, A.7, A.8, A.10, A.12*, A.13*, A.14 and A.15.
	Not adopted amendments A.2, A. 3, A.4, A.5, A.6, A.7, A.8, A.9, A.10, A.11, A.14, A.15	AER does not approve APTPPL's revised proposal on clauses A6, A.9 and A.11

*Adopted by APTPPL following AER's Draft decision and therefore not considered in Appendix A .
Source: APTPPL, *Revised access arrangement proposal*, October 2011; APTPPL, *Access arrangement submission*, October 2011; AER analysis.

9.2 Assessment approach

The AER has not changed its assessment approach for non-tariff components since its draft decision, so it is not repeated here. See section 11.3 of attachment 11 in the draft decision for this detail.[393]

9.3 Reasons for decision

APTPPL has adopted the AER's required amendments set out in the draft decision for some of the non-tariff terms. These are amendments A.1, A.12, A.13 and 11.1. No other industry submissions were received in relation to these terms. The AER's final decision is to approve APTPPL's revised access arrangement proposal in relation to these terms.

APTPPL's adopted the AER's required amendments 11.3 and 11.4 in relation to commencement and review dates. The AER's final decision is to approve APTPPL's commencement and review dates. This is discussed in section 9.3.1 below.

APTPPL adopted the AER's required amendment in relating to extension and expansion requirements (amendment B.1), although TRUenergy made a submission regarding this term. The AER's final decision is to approve APTPPL's revised access arrangement proposal in relation to the extension and expansion requirements. The AER's assessment in relation to this issue is discussed in section 9.3.2 below.

APTPPL has not adopted the AER's required amendments in its draft decision in relation to other non-tariff terms. The AER's consideration of APTPPL's revised proposal on those non-tariff terms is

[393] AER, *Draft decision*, April 2012, pp. 245–246.

also discussed below (capacity trading requirements: section 9.3.3; Queuing requirements: section 9.3.4; and Definitions and terms and conditions: section 9.3.5).

The AER also received submissions from APG[394] regarding certain non-tariff terms. The AER's discussion of those submissions is set out in section 9.3.7 below.

9.3.1 Commencement and review dates

APTPPL, in its revised regulatory proposal, adopted the AER's draft decision on commencement and review dates and made revisions to the access arrangement as required by the AER's draft decision amendments 11.3 and 11.4.[395] The AER's final decision is to accept APTPPL's commencement and review dates.

9.3.2 Extension and expansion requirements

In its draft decision the AER did not approve APTPPL's proposal that extensions and expansions be excluded from regulatory coverage through the application of a fixed principle. APTPPL's revised access arrangement proposal adopted the AER's draft decision on extension and expansion requirements and made revisions to the access arrangement as required by the AER's draft decision amendment B.1.[396] The AER's detailed reasons for its decision on extension and expansion requirements are provided in appendix B of the draft decision.[397]

The AER received a further submission from TRUenergy in response to its draft decision regarding the extension and expansion requirements.[398] TRUenergy requested that the AER grant APTPPL permission to include a fixed principle in clause 7.4 of the access arrangement. TRUenergy submitted that if there is no fixed principle included in the access arrangement there may be no extensions or expansions built on the RBP during the access arrangement period and outcome would be inconsistent with the NGO.[399]

As outlined in the draft decision the AER considers it is sufficient to allow developable capacity to be offered as a negotiated service during the applicable access arrangement period in which the extension or expansion is undertaken.[400] That provides an opportunity for contractual negotiations underpinning the extension or expansion to be entered into to ensure its viability. Further, for the reasons discussed in section B.4 of the draft decision, the AER considers that generally pipeline services provided over an expansion should be covered by the access arrangement when the next regulatory period commences. Therefore, the AER is of the view that there is no basis to change its position on fixed principles and the approach it has taken in the draft decision to fixed principles is consistent with the NGR and NGO.

TRUenergy's submission also asked the AER to reconsider TRUenergy's proposal that the AER and APTPPL should determine reasonable technical and operating standards for the construction of an

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394 APG, *Submission to the AER*, June 2012, pp. 1–7.

395 APTPPL, *Revised access arrangement submission*, May 2012, pp. 71–72.

396 APTPPL, *Revised access arrangement submission*, May 2012, p. 70.

397 AER, *Draft decision*, April 2012, pp. 283–291.

398 TRUenergy, *Submission to the AER*, June 2012, pp. 2–3.

399 TRUenergy, *Submission to the AER*, June 2012, pp. 2–3.

400 As stated in the draft decision this provides an opportunity for contractual negotiations underpinning the extension or expansion to be entered into to ensure its viability. For a further discussion of the issues also refer to the pipeline services attachment 3 in the draft decision.

extension.[401] As stated in the draft decision, the NGL and NGR allow service providers and users to negotiate an extension based upon mutually agreeable terms and conditions. The AER considers this is the best mechanism at present for developing reasonable technical and operating standards that would apply to the construction of an extension.[402]

9.3.3 Capacity trading requirements

APTPPL's revised access arrangement proposal adopted the AER's amendment 11.2, with minor amendments. APTPPL included the definition of the term 'reasonable commercial and technical' in clause 5.5 as was set out in the draft decision. However, APTPPL's revised access arrangement proposal replaced references to 'APTPPL' with 'Service Provider' to keep the terminology consistent with the rest of the access arrangement.[403]

The AER's required amendment 11.2 in the draft decision refers to 'clause 5.4'.[404] However, APTPPL's adoption of this amendment in its revised access arrangement proposal appears to contain a typographical error as it instead references 'clause 5.3'. The AER has not received any other industry submissions in relation to the proposed clause 5.5. The AER does not approve APTPPL's proposed clause 5.5. The AER requires that clause 5.5 be revised to correct the typographical error by replacing the reference to 'clause 5.3' with 'clause 5.4' as set out in revision 9.1.

APTPPL submitted that changes in the AER's approach to these clauses creates uncertainty for the APA in relation to access arrangements where it seeks to submit revision proposals that it considers have maximum potential to be accepted by the AER as they reflect previous AER decisions.[405]

The AER disagrees with the APTPPL's above submission. The AER considers that the specification of 'reasonable commercial and technical' grounds provides additional clarity for both APTPPL and users in relation to capacity trading requirements. The AER notes that while it will generally take into account terms and conditions in other access arrangements, it is not bound to follow an approach taken in another access arrangement. The AER must make a decision on each access arrangement proposal in accordance with the requirements of the NGR and NGL.

9.3.4 Queuing requirements

APTPPL has adopted the AER draft decision on queuing requirements, but has proposed some revisions to the AER's proposed amendments in the draft decision.[406]

The AER does not approve APTPPL's revised queuing requirements. The AER is not satisfied that APTPPL's proposed queuing requirements in its revised access arrangement proposal comply with the NGL and NGR. The AER's assessment and reasons for its conclusion are set out in detail in attachment 10.

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401 TRUenergy, *Submission to the AER*, June 2012, p. 3.
402 AER, *Draft decision*, April 2012, pp. 290-291.
403 APTPPL, *Revised access arrangement submission*, May 2012, pp. 70–71.
404 AER, *Draft decision*, April 2012, p. 250.
405 APTPPL, *Revised access arrangement submission*, May 2012, p. 70.
406 NGR, r. 48(1)(d)(ii).

9.3.5 Definitions and terms and conditions for providing the reference service

APTPPL adopted most of the AER's required amendments to the definitions and terms and conditions. APTPPL adopted the AER's required amendments A.1, A.12 and A.13 in its revised access arrangement proposal. The AER's final decision is to approve these amendments in the revised access arrangement proposal.

APTPPL adopted some of the AER's required amendments with modifications to the wording of the relevant clauses, and rejected others. APTPPL's submissions, which address the AER's required amendments to the terms and conditions, are set out in table 12.1 in its revised access arrangement submission.[407]

The AER's assessment of those terms and conditions which APTPPL either did not adopt, or adopted with some amendments along with the AER's required revisions, are set out in detail in appendix A. The AER does not approve certain revisions proposed by APTPPL. As set out in appendix A, the AER considers that revisions are required in those terms and conditions in order to better promote the NGO.

9.3.6 APG submissions on non-tariff terms

The AER has received submissions from Australian Power and Gas Pty Limited [408](APG) on particular non-tariff terms that the AER had approved its draft decision.

APG made submissions on a number of terms and conditions (clauses 2, 35 and 102) that have not previously been considered in detail by the AER in the access arrangement inquiry process, or have been considered to be uncontentious.

The AER's consideration of APG's submissions is outlined below:

Clause 2 – Prudential requirements

Clause 2 allows a service provider to require security from a user.

The AER's draft decision approved the drafting of clause 2.[409] After considering APG's submissions, the AER's final decision is to approve clause 2 of the terms and conditions in the revised access arrangement.

APG has opposed the drafting of clause 2 which APG submitted that the drafting lacks reference to any consistent calculation methodology in determining the quantum, or criteria for determining this type of support. APG submitted that the clause as worded may produce an arrangement that is unfair, risks being discriminatory against smaller unrated users and is susceptible to over provision.

APG submitted that users should be given flexibility to provide credit support in a low cost manner, commensurate with the risk of payment default and with consideration to that User's risk profile. APG submitted that credit support should be upfront but also maintained during the arrangement. APG considered that forms such as deposits, bank guarantee or a mix should be available. APG also

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407 APTPPL, *Revised access arrangement submission*, May 2012, pp.73–85.
408 APG, *Submission to the AER*, June 2012, pp. 1-7.
409 AER, *Draft decision*, April 2012, pp.242–243.

submitted that where users are not officially rated by an agency, assessments of profiles according to models such as Dunn & Bradstreet should be sufficient.[410]

The AER does not consider that clause 2 as currently drafted will produce an access arrangement that is unfair, or risks being discriminatory against smaller unrated users. The AER notes that clause 2 is not proscriptive, and gives the service provider flexibility in requiring such financial security from a user as is reasonably determined by the service provider. However, the AER considers that the words 'as reasonably determined' in clause 2(a) will ensure that a service provider will not be able to act in an unfair or discriminatory manner.

The AER also notes that clause 2(a) specifies that a security can be 'in the form of a parent company guarantee, bank guarantee or similar security as reasonably determined by the service provider'. The AER considers that this wording allows for flexibility in the form of security that may be required, and that it can accommodate a mix of securities.

The AER notes that a user is able to contest any amount or form of security required by the service provider, and if an amount is contested, a service provider will not be able to suspend the provision of a firm service until the dispute is resolved (clause 2(b)).

Clause 35 – Notice of curtailment

The AER's draft decision approved clause 35.[411] After considering APG's submissions, the AER's final decision is to approve clause 35 of the revised access arrangement proposal.

Clause 35 requires a service provider to give a user 'at least one month's' notice of proposed pipeline works that will result in a curtailment of the firm service to the user. The service provider must also consult with the user.

APG submitted that the wording of clause 35 should require APTPPL to notify the user as soon as practicable on becoming aware of an issue, and in any event at least one month's notice.[412]

The AER considers that a one month notice period is a sufficient in relation to the curtailment of a firm service. The AER notes that the service provider must use reasonable endeavours when carrying out any works so as to avoid or minimise, so far as reasonably necessary, disruption to the firm service to the user. It must also carry out the works during a period in which the service provider reasonably forecasts there will be relatively low aggregate demand.

In light of the sufficiency of the above requirements, the AER considers that an additional obligation on the service provider to notify the user as soon as practicable on becoming aware of the need to carry on works may create unnecessary uncertainty regarding the service provider's obligations.

Clause 100 – Assignment

The AER approved clause 100 in its draft decision and considered that the clause was consistent with the NGO.[413] After considering APG's submission, the AER has made a final decision to approve clause 100 in the revised access arrangement proposal.

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410 APG, *Submission to the AER*, June 2012, pp. 5–6.
411 AER, *Draft decision*, April 2012, pp.242–243.
412 APG, *Submission to the AER*, June 2012, p. 6.

Clause 100 of the terms and conditions provides that if there is a Change in Control in relation to a party (the affected party), then the affected party cannot enforce the Transportation Agreement unless and until it procures the written consent of the other party. Consent must not be unreasonably withheld.

APG submitted that provisions for change of control should be removed. APG suggests that a 'change in control' may sometimes be beyond the immediate control of the parties (as in the case of a publicly listed company) and a condition that the Transportation Agreement cannot be enforced until consent is obtained may be an unreasonable disruption to continuing business. APG stated that this potential disruption is inconsistent with the application of the NGO with regards to reliability and security of supply.[414]

The AER notes APG's concerns that a change in control may sometimes be outside a party's immediate control (for example, a publicly listed company). However, clause 100 does not apply to an affected party who is listed (or whose ultimate holding company is listed) on a recognised public security exchange (clause 100(b)). It also does not apply if the change in control is imposed by law (clause 100(c)).

The AER considers that in relation to change in control events that are within a party's control, a party should be able to arrange consent prior to the change in control taking place. This will avoid unreasonable disruption to continuing business.

The AER considers that the requirement in clause 100 that 'consent must not be unreasonably withheld' provides an assurance that a party will not unreasonably withhold consent in relation to a change in control event (either within or outside a party's control), and will therefore not unreasonably cause a disruption to continuing business.

Clause 102 – Confidentiality

The AER's draft decision approved clause 102.[415] After having regard to APG's submissions, the AER's final decision is to propose a revision to clause 102 to make explicit provision for the disclosure of confidential information to comply with the listing rules of a recognised stock exchange.

Clause 101 of the terms and conditions provides that a party can only use confidential information of the other party for the purposes of performing its obligations under the Transportation Agreement or for internal purposes related to the governance of the party or its related bodies corporate.

Clause 102 requires a party to obtain the prior written consent of the other party in order to use or disclose confidential information for any other purpose except where:

- the disclosure is required by law or lawfully required by an Authority, or
- the information is at the time lawfully generally available to the public, other than as a result of a breach of the Transportation Agreement.

APG submitted that clause 102 should:

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413 AER, *Draft decision*, April 2012, pp.242–243.
414 APG, *Submission to the AER*, June 2012, p. 7.
415 AER, *Draft decision*, April 2012, pp.242–243.

> make provision for disclosure to any financiers or prospective financiers of a party, as exceptions to the consent requirements (in addition to those already specified as lawfully required by an authority), and make explicit provision for disclosure due to adherence of rules of a stock exchange.[416]

Part 16 of the NGR contains specific obligations that apply to service providers in relation to confidential information. Rule 137(1)(b) sets out that a service provider must not use relevant confidential information for a purpose other than the purpose for which the information was given to the service provider. Rule 137(3) sets out exceptions to this rule. One exception is the disclosure or use of confidential information in order to comply with the listing rules of a recognised stock exchange (r. 137(3)(iii)).

The AER considers that it is appropriate to include an exception in clause 102 of the access arrangement to allow a user (as well as a service provider) to disclosure confidential information for the purpose of complying with the listing rules of a recognised stock exchange. The AER considers that this proposed revision ensures that the rights of the user in relation to use and disclosure of confidential information are consistent with the rights of the service provider under Part 16 of the NGR.

The AER does not consider that it is appropriate to introduce an exception in clause 102 to allow a party to disclosure confidential information to financiers or prospective financiers, without the consent of the other party. This exception is not consistent with Part 16 of the NGR. The AER considers that it is preferable for a party to obtain the written consent of the other party to disclose confidential information to financiers, as currently required by clause 102. This ensures that a party will have notice of any disclosure of their confidential information to third party financiers, and will have the opportunity to insist that an appropriate confidentiality regime is in place (e.g. confidentiality undertakings). The AER considers that this is consistent with Part 16 of the NGR.

9.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 9.1
Amend the access arrangement submission to:
Amend clause 5.5 to correct the typographical error by replacing the reference to ‘clause 5.3’ with ‘clause 5.4’

Revision 9.2
Amend clause 102 in the access arrangement to:
A Party must obtain the prior written consent of the other Party in order to use or disclose Confidential Information for any other purpose except where:

(a) disclosure is required by law or lawfully required by an Authority; or

(b) if the information is at that time lawfully generally available to the public, other than as a result of a breach of the Transportation Agreement; or

(c) disclosure is required in order to comply with the listing rules of a recognised stock exchange.

[416] APG, *Submission to the AER*, June 2012, p. 7.

10 Queuing requirements

The AER's final decision on APTPPL's proposed queuing requirements is set out in this attachment. Queuing requirements establish the priority that a prospective user has, against any other prospective user, to obtain access to spare and developable capacity on a covered pipeline.[417]

Queuing requirements must be included in an access arrangement for a gas transmission pipeline.[418] Queuing requirements must establish a process or mechanism (or both) for establishing an order of priority between prospective users of spare or developable capacity (or both).[419]

In its access arrangement submission APTPPL proposed to move from first-come-first-served queuing requirements to an approach based on a publically notified auction. In its draft decision the AER did not approve APTPPL's proposed auction-based queuing requirements, and required it to return to the first-come-first-served approach.

In its revised access arrangement proposal APTPPL proposed:

- Existing capacity—first-come-first-served with a deposit to enter the queue
- Developable capacity—an open season without a queue.

On 25 June 2012 APTPPL submitted that it wished to withdraw its developable capacity proposal, such that no queuing requirements would be established for developable capacity.

10.1 Final decision

The AER does not approve APTPPL's revised queuing requirements. The AER accepts the use of a deposit mechanism for existing capacity, and an open season for developable capacity. However, elements of APTPPL's revised queuing requirements do not comply with the requirements and objectives of the NGL and NGR. The AER has proposed a preferable alternative to APTPPL's revised proposal which complies with the NGL and the NGR, and is more likely to promote efficient outcomes in accordance with the NGO and the revenue and pricing principles.[420]

The AER proposes that revisions be made to the revised access arrangement proposal to incorporate the below.

Existing capacity

- Entering the queue—a request to be placed on the existing capacity queue must be signed by the prospective user's company chief executive officer (CEO) or equivalent.
- Entering negotiations—a non-refundable deposit is to be paid by a prospective user as a condition of entering into negotiations for capacity. The deposit is to be calculated as follows:

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417 NGL, s. 2.
418 NGR, r. 103(1)(a).
419 NGR, r. 103(3).
420 NGL, ss 23 and 24.

- if the capacity being offered is available more than two years after the offer—deposit of two per cent of a year's capacity sought
- if the capacity being offered is available two years or less after the offer—deposit of five per cent of a year's capacity sought
- if the user has paid the two per cent deposit above, when the capacity being offered will now be available two years or less after the original offer—further deposit of three per cent of a year's capacity sought
- the deposit amount calculation must also specify the units to be used.

- Queue maintenance—APTPPL may confirm quarterly with users whether they wish to remain in the queue.
- Negotiations—APTPPL and prospective users are required to negotiate in good faith.

Developable capacity

- Order of priority—there will be an order of priority for developable capacity based on the order in which registrations of interest are submitted.
- Open season—when APTPPL determines that developable capacity may be made available it may hold an open season as per the revised access arrangement.
- Negotiations—APTPPL may negotiate with multiple users in any order, provided that users of higher priority are not ultimately disadvantaged. Negotiations must be conducted in good faith.

Transitional requirements

- The current existing capacity queue will be administered in accordance with the earlier access arrangement, until after the period allowed for users to meet any new requirements to remain on the queue.
- Where a user is not currently in negotiations the user must provide signoff from its company CEO or equivalent to remain in the queue.
- The current developable capacity queue will be grandfathered.

10.2 Assessment approach

The AER's approach to assessing whether queuing requirements comply with the NGL and the NGR is the same as that in the draft decision.[421] The AER undertook significant consultation with APTPPL and users in the draft decision process. This process is not repeated here.

All of the six written submissions on APTPPL's revised access arrangement made comment on the revised queuing requirements.

[421] AER, *Draft decision*, April 2012, see section 10.3 of attachment 10 for this detail.

The AER undertook additional consultation on queuing requirements prior to reaching its final decision to further its understanding of the issues raised by APTPPL in its revised access arrangement proposal, and to engage RBP users.

Cooperatively with APTPPL, the AER consulted with users on the proposed queuing requirements via teleconferences on 22 June 2012 and 10 July 2012. The AER circulated its proposed revisions to APTPPL and pipeline users on 16 July 2012, requesting written submissions by 18 July 2012. The AER received five submissions by the due date. The AER received a sixth written submission from TRUenergy on 27 July 2012. The AER exercised its discretion and decided not to reject the late submission.

The AER took submissions into account in forming its final decision on APTPPL's proposed queuing requirements.

10.3 Reasons for decision

The AER recognises that there may be problems with the first-come-first-served queuing requirements in the earlier access arrangement. For existing capacity, APTPPL submitted that the current queuing requirements can create problems of queue sitting and protracted negotiations, where genuine users are blocked from accessing capacity.[422] Regarding developable capacity, APTPPL submitted that the current queuing requirements prevent or delay development of efficiently scaled capacity expansions or extensions.[423]

In order to address these problems, the AER considers that APTPPL's proposed revised queuing requirements are preferable to the first-come-first-served approach of the earlier access arrangement. However, elements of APTPPL's revised queuing requirements do not comply with the requirements and objectives of the NGL and NGR. The AER is of the view that its alternative is preferable to APTPPL's revised proposal as it complies with the NGL and the NGR, and is more likely to promote efficient outcomes in accordance with the NGO and the revenue and pricing principles.[424]

Table 10.1 outlines APTPPL's proposed queuing requirements and the AER's preferable alternative. All of the submissions the AER received in response to its consultation on its proposed revisions in July, gave support for the AER's preferable alternative. The reasons for the AER's final decision are set out in this section.

422 APTPPL, *Revised access arrangement submission*, May 2012, pp 68–69.
423 APTPPL, *Revised access arrangement submission*, May 2012, p 68.
424 NGL, ss. 23 and 24.

Table 10.1 Outline of the AER's preferable alternative

Element	APTPPL revised proposal	AER final decision
Existing capacity		
Cost to enter the queue	User pay a deposit of 10% of a year's capacity sought	Costless. Applications must be signed by the company CEO
Remaining in the queue	Users must notify APTPPL on a quarterly basis that they wish to remain in the queue	As in the earlier access arrangement—APTPPL may confirm with users quarterly that they wish to remain in the queue
Exiting the queue (when the user has not commenced negotiations with APTPPL)	A user loses all of the deposit	Costless
When capacity becomes available	APTPPL offers spare capacity to users in sequential order After receiving the offer a user has 10 business days to notify APTPPL whether they are: Exiting the queue, and forfeiting the entire deposit — Exiting the queue without penalty Where an offer is made which meets part of a user's request, a user may decline the offer as it does not meet their request, and remain in the same position in the queue Accepting the offer and requesting to enter negotiations	
Entering negotiations		APTPPL will notify the user that it is required to pay one of the following relevant deposits: ▪ If the capacity being offered is available more than two years after the offer—deposit of 2% of a year's capacity sought ▪ If the capacity being offered is available two years or less after the offer—deposit of 5% of a year's capacity sought ▪ If the user has paid the 2% deposit above, when the capacity being offered will now be available two years or less after the original offer—further deposit of 3% of a year's capacity sought. A user has 20 business days to pay the relevant deposit, after it accepts an offer and from when it receives notification to pay. This period may be extended by APTPPL APTPPL and users will be required to negotiate in good faith
Successful negotiations	A user's deposit plus interest will be credited toward the amount payable under the user's transportation agreement	
Failed negotiations	A user loses all the deposit unless it lodges an access dispute	
Developable capacity		
Registrations of interest	Users may submit registrations of interest at any time, before or during the open season	
Order of priority	None	The order of priority for developable capacity is based on the order in which registrations of interest are submitted
Open season	When APTPPL determines that developable capacity may be made available it may hold an open season	

Element	APTPPL revised proposal	AER final decision
Negotiations	APTPPL will bilaterally negotiate with users	APTPPL may negotiate with multiple users in any order, provided that users of higher priority are not ultimately disadvantaged APTPPL and users and required to negotiate in good faith
Transitional arrangements		
Existing capacity	Users will be given a period of time to meet any new requirements	
		The existing capacity queue will be grandfathered and operate in accordance with the earlier access arrangement until after the period allowed for users to meet any new requirements
Developable capacity	The developable capacity queue will be grandfathered	

10.3.1 Existing capacity

APTPPL's revised queuing requirements for existing capacity are based on the first-come-first-served provisions of the earlier access arrangement, with the addition of a non-refundable deposit required to enter the queue.[425]

The AER agrees with the use of first-come-first-served queuing requirements. This meets the requirements of r. 103 of the NGR for the following reasons:

- the first-come-first-served approach establishes an order of priority between prospective users[426]
- prospective users will be treated on a fair and equal basis as they are given priority based on the order in which they join the queue[427]
- the first-come-first-served revised queuing requirements contain sufficient detail to enable prospective users to understand the basis on which an order of priority between them is determined.[428]

The AER accepts that the introduction of a deposit mechanism is likely to incentivise non-genuine users to exit the existing capacity queue, while not discouraging genuine access seekers. This may allow APTPPL to manage the queue more effectively. This is likely to promote more efficient outcomes in accordance with the NGO and the revenue and pricing principles, in comparison to the first-come-first-served approach of the earlier access arrangement.[429]

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425 APTPPL, *Revised Access arrangement submission*, May 2012, pp 68–69.
APTPPL, *Revised Access arrangement proposal*, May 2012, parts 6.1–6.4.
426 NGR, r. 103(3).
427 NGR, r. 103(3).
428 NGR, r. 103(5).
429 NGL, ss. 23 and 24.

The AER also considers that the use of a deposit complies with r. 103 of the NGR as any deposit paid would be independent of the how the order of priority between prospective users was determined.[430] Further, prospective users will be treated on a fair and equal basis as all users will be subject to the same deposit rules.[431]

However, the AER does not approve a number of elements of APTPPL's revised access arrangement proposal, and outlines the following preferable alternatives:

- a non-refundable deposit to commence negotiations is preferable to APTPPL's requirement for a non-refundable deposit to enter the queue
- the following deposits are preferable to APTPPL's proposed 10 per cent:
- if the capacity being offered is available more than two years after the offer—deposit of two per cent of a year's capacity sought
- if the capacity being offered is available two years or less after the offer—deposit of five per cent of a year's capacity sought
- if the user has paid the two per cent deposit above, when the capacity being offered will now be available two years or less after the original offer—further deposit of three per cent of a year's capacity sought.
- the option that APTPPL may confirm quarterly with users whether they wish to remain in the queue is preferable to APTPPL's proposal to require users to notify APTPPL quarterly.

The AER's reasons for concluding that the above alternatives are preferable to APTPPL's revised proposal are provided below.

The need to improve first-come-first-served

The AER accepts that improvements to incentivise genuine behaviour in the existing capacity queue are preferable to the first-come-first-served approach of the earlier access arrangement. This is in the interest of promoting more efficient operation, use of, and investment in, the pipeline.[432] However, any changes to the RBP queuing requirements should create appropriate incentives, without creating an unnecessary burden on genuine users.

APTPPL submitted that:[433]

> The other major concern with the FCFS queue was the scope for "queue-sitting", where by shippers holding a position on the queue could hold that position and block or delay access to other shippers.

User submissions are central to the AER's consideration of APTPPL's revised submission proposals. AGL fully supported APTPPL's revised queuing requirements.[434] APG supported the reinstatement of

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430 NGR, r. 103(3) and 103(5).
431 NGR, r. 103(3).
432 NGL, s. 23.
433 APTPPL, *Revised access arrangement submission*, May 2012, pp 68–69.
434 AGL, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 25 June 2012, p 1 (AGL, *Submission to the AER*, June 2012).

first-come-first-served but suggested that amendments were still required.[435] Origin agreed that well-developed queuing requirements should mitigate the potential for queue sitting.[436] BP recognised the need for reform, but cautioned that it must not be at the expense of genuine users.[437] Stanwell acknowledged the need to facilitate genuine participation in the queue, but emphasised that the broader impact of any incentives must be considered.[438]

The AER accepts that currently it is possible for prospective users to block other users, as there are no disincentives for users to queue sit. However, neither APTPPL nor users have submitted evidence of this occurring.

The AER is of the view that, to the extent problems exist with the current first-come-first-served queuing requirements, ensuring that APTPPL can offer capacity and negotiate with genuine users as quickly as practicable is important in promoting the efficient use of the pipeline.[439] Queue sitting prior to negotiations commencing appears to be less of an issue. In its submission, BP agreed that the crux of the issue with the existing capacity queue related to the process in contracting capacity once it became available.[440]

Where queue sitting occurs prior to any offers being made, it may promote inefficiencies such as sending inaccurate signals to users about the when capacity is likely to become available. Where queue sitting occurs while offers are being made, it may promote the inefficient allocation of capacity.

The AER considers that the inefficient allocation of capacity (where queue sitting occurs while offers are being made) may be more harmful to users than inefficient market signals (where queue sitting occurs prior to any offers). This is because the harm to users of inefficient market signals is that their decision to enter the existing capacity queue may be distorted. The effect of this possible distortion is not clear. However, queue sitting by non-genuine users during offers and negotiations can cause harm by delaying a genuine user's access to capacity. The AER is therefore of the view that promoting the efficient allocation of spare capacity when it is available, by discouraging queue sitting during the offers and negotiations process, should be the main priority.

The AER considers that requiring a non-refundable deposit to commence negotiations is preferable to a deposit to enter the queue. This is because a deposit to enter negotiations provides a strong incentive for non-genuine users to drop out of the queue once spare capacity becomes available and offers are made. This is likely to promote an efficient process once spare capacity becomes available.

If there is no deposit to enter the queue non-genuine users may still be present in the queue as it is costless to enter and exit. However the AER considers that any benefits of deterring queue sitting prior to offers are outweighed by potential problems created by a deposit to enter the queue. The AER notes that its proposed requirement for the CEO (or equivalent) to signoff on a request to enter the queue can help address the issue of queue sitting prior to offers being made.

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435 APG, *Submission to the AER*, June 2012, p 2.

436 Origin, *Submission to the AER*, June 2012, p 3.

437 BP Australia Limited, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 25 June, June 2012, p. 2 (BP, *Submission to the AER*, June 2012).

438 Stanwell Corporation, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 25 June, June 2012, p. 1 (Stanwell, *Submission to the AER*, June 2012).

439 NGL, ss. 23 and 24.

440 BP, *Submission to the AER*, June 2012, p 1.

The AER's problems with a deposit to enter the queue, proposed requirement for CEO signoff, and further advantages of a non-refundable deposit to commence negotiations are all discussed in detail below.

Circumstances in which the deposit should be refundable

In its revised submission, APTPPL proposed that, other than where a user enters a transportation agreement with APTPPL, there are no circumstances in which a deposit would be refunded.[441]

The AER accepts that:

- Deposits should be credited back to a user where a prospective user enters into a transportation agreement with APTPPL. This is because genuine users are not made worse off.

- A user should forfeit their deposit where it chooses to enter negotiations, but fails to enter a transportation agreement with APTPPL, and does not lodge an access dispute. This is because making deposits refundable in this scenario would not deter non-genuine users from delaying during negotiations.

The AER does not accept that:

- A deposit paid to enter the queue is non-refundable in all other circumstances prior to negotiations commencing. This is because a user may have a bona fide reason beyond their control for exiting the queue. For example, the user's business conditions may have changed and they no longer require capacity on the pipeline. In these circumstances, the AER considers that an efficient outcome would be for those users to exit the queue promptly, allowing genuine users who want capacity to move up the queue. Such users should not be penalised or face a disincentive for doing so.

AGL did not consider that the deposit being non-refundable is unreasonable.[442] Although BP understood the motivations behind the deposit, it did not support the deposit being non-refundable.[443] APG submitted that the deposit should be refunded where a user chooses to exit the queue, and that this was particularly important when circumstances beyond the control of the shipper changed.[444]

Stanwell submitted that:[445]

> A deposit refund should be available and at a minimum provided in the event that an acceptable underlying gas supply agreement is not secured and or the downstream off-take project does not proceed. Further, the deposit should be refunded if the proponent withdraws from the queue prior to the expiry of an offer for capacity by APTPPL.

Origin discussed several scenarios where it considered a deposit should be refunded:[446]

> ...can a user obtain a refund when it is offered part of its requested capacity but declines it because it wants all the capacity required or nothing and subsequently does not wish to remain in the queue?

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441 APTPPL, *Revised access arrangement proposal*, May 2012, clause 6.2(c).
442 AGL, *Submission to the AER*, June 2012, p 1.
443 BP, *Submission to the AER*, June 2012, p 1.
444 APG, *Submission to the AER*, June 2012, p 5.
445 Stanwell, *Submission to the AER*, June 2012, p 1.
446 Origin, *Submission to the AER*, June 2012, pp 4–5.

> ...when a user reduces the capacity sought in its request. Does that user receive a refund for the difference between its original request and revised request?
>
> ...what happens if a user wishes to be removed from the queue as they have negotiated access to capacity through bilateral negotiations for an expansion?
>
> ...does the deposit need to be topped up with increases to the reference tariff each year?

The AER considers that establishing barriers to voluntary exit from the queue would be counter to the intent of the deposit. The AER is also of the view that this may not promote the efficient use of, and investment in, the pipeline.[447] This is because, as discussed above, it may be more efficient for a user to exit the queue where they no longer want capacity due to a bona fide reason beyond their control. This allows genuine users who want capacity to move up the queue.

The AER considers that requiring a non-refundable deposit to enter negotiations is preferable to a deposit to enter the queue. This provides an incentive for non-genuine users to drop out of the queue once spare capacity becomes available and offers are made. The AER is of the view that this is of benefit to APTPPL and users and is likely to promote the efficient allocation of spare capacity.

In response to the AER's proposed revisions APG submitted that a deposit should still be refundable where circumstances beyond a user's control mean that it can no longer take up the capacity offered. APG also submitted that the existence of an at-risk deposit during negotiations may disadvantage small users in particular.[448]

The risk of circumstances beyond the user's control arising increases the longer the period of time is between when they are required to pay the deposit, and when they begin using capacity. The AER considers that the risk of a user losing the deposit because of unforeseen circumstances is outweighed by the benefits of a non-refundable deposit to enter negotiations creating appropriate incentives for genuine behaviour. In addition, the AER does not consider that small users are worse off than large users as the deposits are calculated as the same proportion of capacity requested for all users.

Origin submitted in its response to the AER's proposed revisions that a user should have the deposit plus interest refunded immediately once they sign a binding agreement with APTPPL, rather than having it credited towards the amount payable under their transportation agreement.[449]

The AER considers that it is unlikely to make a significant practical difference for a user at what stage the deposit money is returned, in particular where a transportation agreement will commence within a few years of an agreement being signed. The AER is of the view that it is acceptable for the deposit plus interest to be credited towards the transportation agreement. There will be additional administration costs if funds need to be transferred back and forth between APTPPL and a user, and there do not appear to be strong reasons to change these requirements.

The deposit amount

APTPPL proposed a deposit to join the queue calculated as:[450]

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447 NGL, s.23.

448 APG, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal*, dated 18 July 2012, (APG, *Submission to the AER*, July 2012).

449 Origin Energy Limited, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 18 July 2012, (Origin, *Submission to the AER*, July 2012).

Volume of capacity sought x Reference Tariff x 365 x 10 per cent

This means that the deposit is effectively 10 per cent of a user's first year tariff. Assuming a reference tariff of $0.6 per GJ, the deposit required would be $21 900 per TJ of capacity sought. APTPPL submitted that this calculation was designed to ensure a deposit amount sufficiently large to require the consideration of senior management in a company.[451]

The AER does not approve the deposit amount being 10 per cent of one year's capacity sought. This is because the deposit amount may be larger than necessary to create the intended incentives. For a large user a 10 per cent deposit is likely to be well in excess of one million dollars. For small users a 10 per cent deposit is likely to be large relative to available funds. The AER also considers that it is onerous for users to not have access to these funds or any returns on them for the period in which they are in the queue (which may be years). Further, this relatively large amount of money may be difficult for users to produce at short notice, and that this may serve as an disincentive to enter the existing capacity queue.

AGL did not consider the deposit being sought was unreasonable.[452] Stanwell submitted that it was unclear why APTPPL had chosen ten per cent, and that it expected the value would be substantially lower if it were calculated on a cost reflective basis.[453] Origin similarly submitted that there was no cost-benefit analysis demonstrating the efficiency of the 10 per cent amount.[454] APG submitted that the amount of the deposit should be in proportion to the incentives it is intended to create, and suggested that no more than 5 per cent should be appropriate.[455]

As a result of its consultation with APTPPL and users, the AER proposes revisions where the deposit to enter negotiations is calculated as follows:

- if the capacity being offered is available more than two years after the offer—deposit of two per cent of a year's capacity sought
- if the capacity being offered is available two years or less after the offer—deposit of five per cent of a year's capacity sought
- if the user has paid the two per cent deposit above, when the capacity being offered will now be available two years or less after the original offer—further deposit of three per cent of a year's capacity sought.

The AER considers that any deposit should not exceed five per cent. This should be sufficient to incentivise users to act genuinely, while not being so large that genuine users are required to lodge a large amount of money.

The AER considers that a lower deposit is necessary where a user must decide whether to accept an offer of capacity where the capacity will only become available more than two years in the future. This is because feedback from users indicated that it was difficult to predict business needs more than two years in advance. So although a user may be genuine in accepting that offer of capacity, there was a

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450 APTPPL, *Revised access arrangement proposal*, May 2012, clause 6.2(b).
451 APTPPL, *Revised access arrangement submission*, May 2012, p 68.
452 AGL, *Submission to the AER*, June 2012, p 1.
453 Stanwell, *Submission to the AER*, June 2012, p 2.
454 Origin, *Submission to the AER*, June 2012, p 5.
455 APG, *Submission to the AER*, June 2012, p 5.

greater risk that circumstances beyond their control may eliminate their need for that capacity in the future. The AER concluded that there was a higher risk of a user losing the deposit in this scenario, and that the deposit should therefore be lowered to two per cent.

Stanwell considered that it was inefficient and unnecessary for capital to be tied up in a deposit for the entire time it was in the queue. Stanwell agreed that a deposit to commence negotiations struck the right balance between ensuring participants were genuine without tying up capital.[456] APG, AGL, BP and TRUenergy also supported the three types of deposit to enter negotiations proposed by the AER above.[457]

Origin questioned the rationale for requiring the further three per cent deposit once a user's capacity falls within the two year threshold, arguing that the two per cent deposit was sufficient to demonstrate that a user was genuine.[458] The AER considers that the additional three per cent is necessary to bring the 'balance' of the deposit to five per cent in all cases. This is so that prospective users are treated on a fair and equal basis as users who receive offers of capacity closer to the date it will become available are not disadvantaged by being required to pay a larger deposit.[459] Furthermore, having the deposit as effectively five per cent for all prospective users ensures that the incentives for making offers of capacity at different times are not distorted.

Amount of time to pay a deposit

The AER proposes that once a user notifies APTPPL that it accepts an offer, that it is bound to pay the relevant deposit. After APTPPL is notified of a user's acceptance, APTPPL will notify the user the relevant deposit amount it is required to pay. After the user receives this notification it will have 20 business days to pay the deposit, which may be extended by APTPPL.

APTPPL and users were not opposed to this timeframe, but Stanwell submitted that APTPPL should explicitly be required to consider a request from a user to extend the time allowed to pay a deposit.[460] The AER considers that requiring APTPPL to consider any reasonable request does not guarantee that that request will be allowed, and so the outcome may be the same under either wording. Further that the consideration of extending timeframes should not be an explicit requirement as this may encourage protracted negotiations. The AER is of the view that it is unlikely that APTPPL would not consider a reasonable request to allow a user more time to pay a deposit, and that this should be covered by requiring good faith negotiations.

Units used in the deposit calculation

There are no units specified in the deposit calculation formula. APTPPL submitted that the daily volume of fixed capacity sought in GJ, and the current reference tariff for capacity (not throughput) in dollars should be used. The AER considers the following units should be specified in the access arrangement.

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456 Stanwell, *Submission to the AER*, June 2012, p 2; Stanwell Corporation, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 18 July 2012, (Stanwell, *Submission to the AER*, July 2012).

457 APG, *Submission to the AER*, July 2012; AGL Energy, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 18 July 2012, (AGL, *Submission to the AER*, July 2012); BP Australia Limited, *Submission to the AER on the Roma to Brisbane revised access arrangement proposal,* 18 July 2012, (BP, *Submission to the AER*, July 2012); TRUenergy, *Submission to the AER*, July 2012.

458 Origin, *Submission to the AER*, July 2012.

459 NGR, r. 103(3).

460 Stanwell, *Submission to the AER*, July 2012.

- the existing capacity queue deposit in dollars
- the volume of capacity sought is the daily fixed volume of capacity in a request in GJ
- the reference tariff to be used is the reference tariff at the time that the deposit is calculated in dollars (this is the capacity reservation component of the reference tariff only, not both the capacity and throughput components).

Queue maintenance

APTPPL proposed that a user should be required to notify APTPPL on a quarterly basis that it wishes to remain in the queue, or face having their request removed from the queue.[461] This is a change from the earlier access arrangement where APTPPL had discretion to seek confirmation from a user on a quarterly basis whether it wished to remain in the queue.[462]

The AER does not approve this change. This is because, as the AER is requiring a non-refundable deposit to enter negotiations, this should incentivise non-genuine users to exit the queue prior to negotiations. This may partly mitigate the need for APTPPL to closely monitor the queue for non-genuine users prior to negotiations. The AER also considers that having a mandatory requirement may create additional and unnecessary administrative costs. APTPPL is also in a better position to maintain the queue as it has complete information about all requests in the queue. Further, that where a user neglects to notify APTPPL that it wishes to stay in the queue, it will face punitive costs.

Users expressed discomfort at APTPPL's proposed change. BP submitted that quarterly updates may be too frequent for it to properly reassess its requirement to be in the queue, and proposed that the process be conducted annually.[463] APG submitted that there should be two-way communication between users and APTPPL so that a user can make an informed decision whether it wishes to stay in the queue.[464] Origin submitted that APTPPL should still be required to communicate with users in a collaborative and timely manner.[465]

The AER therefore requires this requirement to remain as it was under the earlier access arrangement, where APTPPL may seek confirmation from users on a quarterly basis whether or not they wish to remain in the queue.

Senior management sign off

APTPPL submitted that it:[466]

> ...has long been concerned that a position on the queue could be secured by simply filing a letter requesting to join the queue. This did not necessarily require the endorsement of senior management of the business, and had considerable scope to block access to other, genuine, shippers. APTPPL therefore considers that the deposit needs to be sufficient to require expenditure approval by a suitably senior level of management.

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461 APTPPL, *Revised access arrangement proposal*, May 2012, clause 6.3(b).
462 APTPPL, *Access arrangement for RBP*, March 2007, clauses 6.4(b) and 6.4(c).
463 BP, *Submission to the AER*, June 2012, p 2.
464 APG, *Submission to the AER*, June 2012, p 5.
465 Origin, *Submission to the AER*, June 2012, p 3.
466 APTPPL, *Revised access arrangement submission*, May 2012, pp 68–69.

The AER accepts that senior levels of management should approve a prospective user's request to join the queue. The AER considers that this should be made a formal requirement in the revised access arrangement, as it is in the interest of promoting the efficient use of, and investment in the pipeline.[467]

This requirement was also supported in submissions. Stanwell considered that requiring CEO/Board sign off to enter the queue would be sufficient to ensure a user was genuine.[468] Origin submitted that its internal processes already required senior management to consider a request to enter the queue, and it was in favour of formalising this requirement.[469]

The AER proposes that a prospective user's company CEO (or equivalent) be required to sign a request to enter the existing capacity queue. APG, AGL and Origin submitted that a delegated officer should be sufficient rather than the CEO.[470] The AER considers that allowing a delegated officer to sign a request to enter the queue may not guarantee senior management involvement in the decision. This may defeat the purpose of this requirement as a delegated officer could still be a lower level employee. The AER does not consider the requirement for CEO signoff as overly onerous, and that 'or equivalent' captures some level of flexibility at the senior level. The AER also notes that CEO signoff would only be required once when a user joined the queue, and does not involve committing any funds.

During negotiations

APTPPL has not specified any requirements on how negotiations may be conducted.

The AER considers that users and APTPPL should be required to negotiate in good faith. This because the introduction of a deposit may incentivise users to prolong negotiations to delay the loss of the deposit. Similarly, APTPPL may be incentivised to be less cooperative during negotiations, as it stands to gain revenue from a prospective user's deposit.

The AER considers that a good faith clause will ensure that negotiations are conducted in good faith, which will assist in the deposit mechanism creating the desired incentives. This is likely to promote the efficient operation and investment in the pipeline, the efficient provision of pipeline services, and use of the pipeline with respect to the reference service.[471]

APTPPL and users were not opposed to the inclusion of good faith negotiation provisions.

10.3.2 Developable capacity

APTPPL's submission to withdraw its queuing requirements for developable capacity

On 25 June 2012, in response to an AER query, APTPPL proposed to withdraw its developable capacity proposal, such that no queuing requirements would be established for developable capacity.

Rule 60 of the NGR states that:

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467 NGL, ss. 23 and 24.
468 Stanwell, *Submission to the AER*, June 2012, p 1.
469 Origin, *Submission to the AER*, June 2012, p 4.
470 APG, *Submission to the AER*, July 2012; AGL, *Submission to the AER*, July 2012; Origin, *Submission to the AER*, July 2012.
471 NGL, ss. 23 and 24.

> A service provider, may, within the revision period, submit additions or other amendments to the access arrangement proposal to address matters raised in the access arrangement draft decision.

The revision period is the period indicated in the draft decision that an access provider has to revise its proposal.[472] The AER's draft decision required APTPPL to submit its revised access arrangement proposal by 25 May 2012.[473]

The AER does not accept APTPPL's proposed amendment to the revised proposal, as it was not received within the revision period. The AER has instead considered this as a submission in making its final decision on APTPPL's revised access arrangement proposal.

APTPPL's revised access arrangement

APTPPL's revised queuing requirements put forward an open season approach. APTPPL submitted that:[474]

> ...the purpose of developable capacity queuing arrangements is to aggregate sufficient demand to construct efficient expansions. The concept of a "queue" sits uncomfortably with the bespoke nature of pipeline expansions.
>
> The purpose of Developable Capacity Queuing Requirements is to monitor the market and aggregate demand for pipeline expansions in order to expand the pipeline in the most efficient way.
>
> The expressions of interest filed by potential users will inform APTPPL regarding the level of interest in developable pipeline capacity. APTPPL will then be able to develop a pipeline expansion project to serve that market interest.
>
> APTPPL therefore proposes an "open season" process for developable capacity. The open season will identify those shippers seeking additional capacity on the pipeline, and APTPPL will enter into bilateral negotiations to develop the optimally sized capacity expansion.

The AER does not approve APTPPL's revised queuing requirements for developable capacity. This is because APTPPL's revised developable capacity queuing requirements do not establish an order of priority between prospective access seekers. The AER is of the view that this does not satisfy the requirements of the NGL and the NGR for the following reasons:

- Rule 103(1) of the NGR requires that an access arrangement for a transmission pipeline must contain queuing requirements. Queuing requirements relate to both spare and developable capacity in the definition in section 2 of the NGL.
- Developable capacity is defined in section 2 of the NGL as expansions to the covered pipeline. Queuing requirements for developable capacity must establish an order of priority in accordance with r. 103 of the NGR.
- Rule 103(3) of the NGR requires there to be either a single order of priority established for both existing and developable capacity, or a separate order of priority for each.
- An order of priority must also be established to satisfy r. 103(5) of the NGR, which states that queuing requirements must enable prospective users to understand the basis on which an order of priority between them has been determined. Further that they be able to determine their position in the queue.

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472 NGR, r. 59(3).
473 AER, *Draft decision*, April 2012, p ii.
474 APTPPL, *Revised Access arrangement submission*, May 2012, p 68.

- Without an order of priority users may not be treated on a fair and equal basis as required by r. 103(3) of the NGR. This as APTPPL has also not indicated in the revised proposal, how it will make offers of developable capacity to prospective users, or how it will negotiate with them.

The AER accepts that an open season approach allows a group of prospective users to more efficiently establish interest and invest in developable capacity. This may allow more users access to developable capacity more quickly, where a single prospective user may otherwise not have invested in developable capacity or delays may have been experienced. The AER considers that this approach may promote more efficient operation, use of, and investment in, the pipeline.[475]

User submissions were in favour of the open season approach. BP fully supported the revised developable capacity queuing requirements.[476] Origin also broadly agreed with the open season approach.[477] APG supported the open season approach, but emphasised the need for fairness:[478]

> Any open season process for developable capacity needs to be conducted on a fair and equitable basis and not discriminate against smaller shippers. Rules need to be established to ensure a level playing field is upheld.

The AER considers that a preferable alternative is to retain the open season approach, but establish an order of priority between access seekers to satisfy the requirements of the NGL and the NGR.

The AER therefore requires that:

- There be an order of priority for developable capacity based on the order in which registrations of interest are submitted.
- Users may submit registrations of interest for developable capacity at any time.
- Where APTPPL determines that developable capacity may be made available it may conduct an open season as per its revised queuing requirements.
- Further registrations of interest received during the open season should also be assigned an order of priority based on the time they were submitted.
- Users who submitted a registration of interest prior to the open season, who confirm that they are interested in the developable capacity offered in the open season, should retain the order of priority assigned to their original request.

The AER considers that the order of priority determined above should determine how APTPPL negotiates with users. APTPPL may negotiate with multiple users in any order, as long as users with a higher priority are not ultimately disadvantaged. This may encourage a more efficient aggregation of users to invest in developable capacity, while maintaining fairness and an order of priority. APTPPL and users should also be required to negotiate in good faith.

All user submissions received in response to the AER's proposed revisions, supported the AER's approach to developable capacity.[479] In addition, TRUenergy submitted that tariffs for developable

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475 NGL, s. 23.
476 BP, *Submission to the AER*, June 2012, p 2.
477 Origin, *Submission to the AER*, June 2012, p 3.
478 APG, *Submission to the AER*, June 2012, p 5.

capacity should be justified against the reference tariff.[480] As noted in the draft decision, the reference service provides a reference point for negotiating access to pipeline services. However, the reference tariff is set taking into account factors relevant only to the reference service. Therefore, the AER is of the view that it is not appropriate for the service provider to 'justify' tariffs for developable capacity against the reference tariff..

10.3.3 Transitional arrangements

Existing capacity

APTPPL proposed that the current existing capacity queue be grandfathered.[481] APTPPL would notify prospective users within one month of the commencement of the access arrangement of the deposit amount they are required to pay to retain their position in the queue.[482] Prospective users must pay the deposit within 28 days of being notified, or they would be removed from the queue.[483]

The AER does not approve APTPPL's transitional arrangements for existing capacity. The AER reached this final decision because:

- The AER did not approve the requirement for users to pay a deposit to enter the queue. Therefore the transitional requirements for users to remain in the queue must be different.
- The AER considers that there is not sufficient clarity regarding the operation of the queue during the transitional period.

The AER considers that users who are in the queue but not currently in negotiations, should be required to provide signoff from the company CEO or equivalent to remain in the queue (rather than providing a deposit as proposed by APTPPL).

The AER considers that the access arrangement should clearly specify that the existing capacity queue will function as it did in the earlier access arrangement until after the period allowed for users to meet any new requirements to remain on the queue. As noted above, the AER does not consider that this was clearly specified in the transitional arrangements for queuing in APTPPL's revised access arrangement.

The AER has proposed revisions to the revised access arrangement to require a user to provide signoff from the company CEO to remain in the existing capacity queue, and also to clarify the transitional arrangements.

Developable capacity

APTPPL proposed that the developable capacity queue would be dissolved.[484]

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479 APG, *Submission to the AER*, July 2012; AGL, *Submission to the AER*, July 2012; BP, *Submission to the AER*, July 2012; Origin, *Submission to the AER*, July 2012; Stanwell, *Submission to the AER*, July 2012; TRUenergy, *Submission to the AER*, July 2012.

480 TRUenergy, *Submission to the AER*, July 2012.

481 APTPPL, *Revised Access arrangement submission*, May 2012, p 69.

482 APTPPL, *Revised Access arrangement proposal*, May 2012, clauses 6.7(b) and 6.7(c).

483 APTPPL, *Revised Access arrangement proposal*, May 2012, clauses 6.7(d) and 6.7(e).

484 APTPPL, *Revised Access arrangement proposal*, May 2012, clause 6.7(g).

The AER does not approve that the developable capacity queue be dissolved. The AER requires that the order of priority of any user in the queue be grandfathered in the new order of priority under the access arrangement.

On 21 June 2012 APTPPL advised that there were no users on the developable capacity queue. Given that there are currently no users on queue the AER is of the view that this queue should be grandfathered. Any expressions of interest that may be lodged prior to the commencement of the access arrangement, or during the transitional period, will remain in the queue and form an order of priority for developable capacity.

10.4 Proposed revisions

The AER proposes the following revisions to make the revised access arrangement proposal acceptable:

Revision 10.1: Part 6 of APTPPL's revised access arrangement is to be replaced entirely with the following:

6 Queuing requirements

6.1 Existing Capacity Queues

(a) Where there is insufficient Existing Capacity to satisfy a Request for Services to be provided by Existing Capacity in full or part, a queue will be formed (Existing Capacity Queue).

6.2 Forming the Existing Capacity Queue

(a) An Existing Capacity Queue will include all relevant Requests for Services to be provided by Existing Capacity which cannot be satisfied from the spare capacity of the covered pipeline and in respect of which a request has been made for that Request to be entered on the Existing Capacity Queue.

(b) A Request to be placed on the Existing Capacity Queue must be signed by the Prospective User's company Chief Executive Officer (CEO) (or equivalent), and be in the form set out in Schedule 6B of this Access Arrangement. Any Request to be placed on the Existing Capacity Queue that has not been signed in accordance with this paragraph (b) will not be entered into the Existing Capacity Queue.

(c) Requests to be entered on the Existing Capacity Queue will be placed on the Existing Capacity Queue in the order in which they are received and, subject to subparagraph (f) this order determines the order of priority between them for Services to be provided by Existing Capacity.

(d) A Request for a Reference Service will have priority over a request for a similar Service at a tariff less than the Reference Tariff. Otherwise, the priority of a Request depends upon its priority date.

(e) Where Service Provider determines that two or more Requests relate to the same tranche of capacity for the same Delivery Point, then those Requests will have the priority date of the earliest Request.

(f) At the time a Request is placed in the Existing Capacity Queue, Service Provider will advise the Prospective User of:

(i) the date the Request was placed in the Existing Capacity Queue;

(ii) its position on the Existing Capacity Queue; and

(iii) the aggregate capacity sought under Requests which are ahead on the Existing Capacity Queue.

6.3 Conditions Applicable on the Existing Capacity Queue

(a) A Prospective User may reduce, but not increase, the capacity sought in a Request which is in the Existing Capacity Queue.

(b) At intervals of no more than three months, Service Provider may seek confirmation from a Prospective User that it wishes to proceed with its Request to remain on the Existing Capacity Queue. If a Prospective User fails to provide confirmation within 14 Days, the Request will lapse.

(c) A Prospective User will advise Service Provider if it does not wish to proceed with a Request to remain on the Existing Capacity Queue. The Service Provider may then remove the Request from the Existing Capacity Queue.

(d) A Prospective User may only assign a Request on the Existing Capacity Queue to:

(i) a bona fide purchaser of the Prospective User's business and/or assets;
(ii) a bona fide supplier of Gas to the Proposed User's identified or assumed end-User; and
(iii) subject to the Prudential Requirements.

(e) A Request may lapse if, on assignment of a controlling interest in the shares of the Prospective User, the assignee fails to provide a guarantee as required by Service Provider or to meet the Prudential Requirements.

(f) Any lapsed Request will be removed from the Existing Capacity Queue and priority will be lost.

(g) A Request will not lapse and will retain its priority in the Existing Capacity Queue in the event of a dispute being notified, until that dispute has been resolved in accordance with the NGR.

(h) Where an Existing Capacity Queue exists, a Prospective User must on request demonstrate to Service Provider that the Prospective User will have access to supply of Gas at the time it is anticipated that the Prospective User will be offered access to the Service and where the Prospective User does not do so, its Request will lapse.

(i) When the position of a Request changes relative to other Requests which are ahead in the Existing Capacity Queue (such as where a Request ceases to be on the Existing Capacity Queue) Service Provider will provide revised information to the Prospective User.

(j) Service Provider will not provide information to a Prospective User where providing that information would involve the release or disclosure of Confidential Information about another User or Prospective User.

6.4 Procedure when capacity can be made available for Services provided by the Existing Capacity

(a) When capacity can be made available which meets the requirements (in part or in full) of any Request in the Existing Capacity Queue that capacity will be progressively offered to each Prospective User in the Existing Capacity Queue in order of priority (notwithstanding that such capacity is not sufficient to meet the needs of that Prospective User).

(b) Any Prospective User that receives an offer of capacity pursuant to subparagraph (a) must notify Service Provider within 10 Business Days as to whether it wishes to accept that offer or not.

(c) If a Prospective User does not notify Service Provider within that period of 10 Business Days that it wishes to accept the capacity offered to it, then:

(i) the Request in respect of which that offer was made will be removed from the Existing Capacity Queue (to the extent that it will be satisfied by the capacity offered); and

(ii) Service Provider will send that Prospective User a contract setting out the terms and conditions on which Service Provider will provide that Prospective User with the services requested by that Prospective User.

(d) If the Prospective User does not execute the contract and return it to Service Provider within 10 Business Days after it was received by that Prospective User under subparagraph (c)(ii) (or such longer period as Service Provider may allow), then the offer of capacity to that Prospective User will lapse and that capacity will become available for offer in accordance with this section 6.4, to other Prospective Users on the Existing Capacity Queue.

(e) Where a Prospective User is offered part of the capacity in a Request:

(i) but declines it because the Prospective User wants all the capacity requested or nothing; or

(ii) accepts the capacity offered but the Prospective User wants to remain in the Queue for the remainder of the requested capacity the Prospective User will not lose priority in respect of any capacity requested but not taken provided that it notifies Service Provider that it wishes to remain in the Existing Capacity Queue.

(f) Where a Prospective User notifies Service Provider that it wishes to accept the capacity offered, the Service Provider will notify the Prospective User that it must pay the relevant existing capacity queue deposit (Existing Capacity Queue Deposit), in accordance with the following:

(i) Where the capacity being offered will be made available more than two years after the date the offer was made by Service Provider:

Existing Capacity Queue Deposit = Volume of capacity sought x Reference Tariff x 365 x 2%

(ii) Where the capacity being offered will be made available two years or less after the date the offer was made by Service Provider:

Existing Capacity Queue Deposit = Volume of capacity sought x Reference Tariff x 365 x 5%

(iii) Where a Prospective User has paid the Existing Capacity Queue Deposit pursuant to subparagraph (f)(i), and after a period such that the capacity being offered will be made available two years or less after the date the original offer was made by Service Provider pursuant to paragraph (a):

Existing Capacity Queue Deposit = Volume of capacity sought x Reference Tariff x 365 x 3%

(iv) For subparagraphs (f)(i) to (f)(iii):

The Existing Capacity Queue Deposit is in dollars.

the volume of capacity sought is the daily fixed volume of capacity in a Request measured in GJ

the Reference Tariff to be used is the Reference Tariff at the time that the deposit is calculated, in dollars. This is the capacity reservation component of the Reference Tariff only, not both the capacity and throughput components.

(g) If the Prospective User does not pay the relevant Existing Capacity Queue Deposit within 20 Business Days (or such longer period as Service Provider may allow) of being notified by Service Provider pursuant to paragraph (f) to pay the Existing Capacity Queue Deposit, then Service Provider may withdraw the offer. The Prospective User's Request will be removed from the Existing Capacity Queue.

(h) Subject to paragraph 6.4(j), the Existing Capacity Queue Deposit is non-refundable.

(i) Service Provider and a Prospective User must negotiate in good faith to reach agreement on the terms and conditions of the Transportation Agreement in relation to a Request in the Existing Capacity Queue.

(j) Where a Prospective User enters into a Transportation Agreement in relation to a Request in the Existing Capacity Queue (and upon that Transportation Agreement becoming unconditional), Service Provider will credit toward the amount payable by the Prospective User under that Transportation Agreement, the Existing Capacity Queue Deposit plus interest calculated by reference to the Commonwealth Bank corporate overdraft reference rate as varied from time to time.

6.5 Developable Capacity

(a) Prospective Users may at any time provide Service Provider with an expression of interest regarding interest it would have in Developable Capacity.

(b) Expressions of interest regarding Developable Capacity will have an order of priority for Services to be provided by Developable Capacity based on the order in which they are received.

(c) Where Service Provider determines that two or more expressions of interest relate to the same tranche of capacity for the same Delivery Point, then those Requests will have the priority date of the earliest Request.

(d) At the time an expression of interest is accepted, Service Provider will advise the Prospective User of:

  (i) the number of expressions of interest received ahead of that Prospective User;

  (ii) the aggregate capacity sought under expressions of interest ahead of that Prospective User;

  (iii) its estimate of when capacity may become available; and

  (iv) whether investigations are required to determine whether capacity is or can be made available (Investigations)

(e) When the order of priority of an expression of interest changes relative to other expressions of interest which have a higher priority (such as where an expression of interest is withdrawn) or where the timing of availability of a new tranche of Developable Capacity changes, APTPPL will provide revised information to the Prospective User.

(f) Service Provider will not provide information to a Prospective User where providing that information would involve the release or disclosure of confidential information about another User or Prospective User.

(g) Where Service Provider considers that Developable Capacity alternatives may be able to address demand for Services, Service Provider may conduct an open season process in respect of that Developable Capacity alternative by:

  (i) providing all Prospective Users with expressions of interest in Developable Capacity and Prospective Users who are on the Existing Capacity Queue, as well as other Prospective Users who may be interested in Services that could be provided by the Developable Capacity alternative, with a notice containing details of the Developable Capacity alternative and the date by which registrations of interests should be received; and

  (ii) publishing on Service Provider's website a notice containing details on the Developable Capacity alternative and the date by which registrations of interest should be received.

(h) The date by which registrations of interest should be received must be a date not less than 30 Days after the date that Service Provider provides a notice pursuant to sub paragraph (d)(i) or the date that the notice is published on Service Provider's website (whichever is the latter).

(i) A Prospective User who has an expression of interest currently submitted pursuant to paragraph (b):

  (i) May choose not to participate in the open season, and retain its expression of interest and order of priority.

(ii) May notify Service Provider that it wishes to participate in the open season, within the period specified in paragraph (c). The Prospective User will retain the order of priority assigned to its expression of interest submitted before the open season. The Prospective User will also have priority over any registrations of interest submitted pursuant to paragraph (j)

(j) Prospective Users who do not have an expression of interest submitted pursuant to paragraph (b), may submit registrations of interest in the open season. These will have an order of priority assigned based on the order in which they are received, subject to paragraph (c) and subparagraph (i)(ii).

(k) Registrations of interest are to be in the form set out in Schedule 6B of this Access Arrangement.

(l) Following the closing date for registrations of interest and investigations to determine the availability of Developable Capacity (if any), Service Provider will determine whether a Developable Capacity alternative should be pursued. In making this determination Service Provider will offer Services provided by means of that Developable Capacity to Prospective Users. Service Provider may deal with one or more Prospective Users in any order, provided that a Prospective User is not ultimately disadvantaged compared to Prospective Users with a lower priority than that Prospective User.

(m) Service Provider and Prospective Users must negotiate in good faith to reach agreement on the terms and conditions of any Transportation Agreement in relation to a registration of interest for services to be provided by Developable Capacity.

6.6 Investigations to Determine if Developable Capacity is Available

(a) Service Provider may advise Prospective Users who have lodged registrations of interest that investigations are required to determine whether Developable Capacity could be made available. Service Provider will also advise the Prospective Users of the nature, likely duration and cost of the Investigations. Where there is more than one Prospective User considering participating in the Investigation Service Provider will advise the Prospective User of its share of the estimated cost of the Investigations. This will be determined as the proportion that their MDQ bears to the total MDQ of all Prospective Users participating in the Investigation. The Prospective User may then determine whether it wants Service Provider to undertake the Investigations.

(b) In the event that Service Provider considers that an investigation may be undertaken pursuant to subparagraph (a), Service Provider may, upon request, provide Prospective Users with a general indication of the range of tariffs which may be applicable in relation to any capacity expansion or extension (Indication). An Indication will be provided for the sole purpose of assisting Prospective Users to consider whether they share the costs of an investigation, will be confidential and will not be binding on either party.

(c) Service Provider will not be liable to the Prospective User for any cost, loss, expense or other matter arising from the provision of an Indication, or from the Prospective User's use of or reliance on an Indication, including where any tariff subsequently offered to the Prospective User or any other person is greater or less than the Indication.

(d) Service Provider is only obliged to undertake Investigations if one or more Prospective Users agree to bear the costs of the investigation.

(e) Where a Prospective User declines to meet the cost of Investigations, that Prospective User's Request may be accorded a lower priority than Requests where the Prospective Users have agreed to bear the costs of the Investigation.

(f) A Prospective User who has paid for an investigation will, on entering into appropriate confidentiality arrangements, receive a written report which:

(i) describes the options considered to provide the Developable Capacity; and

(ii) describes Service Provider's preferred option to provide Developable Capacity or provides reasons why no recommendation is made.

(g) Where a Prospective User bears the costs of an Investigation and the Prospective User decides not to proceed with the Request, that Prospective User may assign:

(i) the registration of interest to which the investigation relates, and

(ii) information in the possession of that Prospective User relevant to the Investigation to a bona fide assignee; and

(iii) that assignee may use the results of the Investigation provided that the assignment does not disclose Confidential Information without the consent of persons to whom such information relates.

6.7 Transitional arrangements

(a) Service Provider must, within one Month after the commencement of this Access Arrangement, send a notification to all Prospective Users on the Existing Capacity Queue and the Developable Capacity Queue advising of the amendments to the queuing requirements in this Access Arrangement.

(b) Service Provider must require a Prospective User who wishes to remain entered on the Existing Capacity Queue and to retain its position in the Existing Capacity Queue, to provide company CEO (or equivalent) signoff in accordance with 6.2(b) of this Access Arrangement.

(c) After the commencement of this Access Arrangement, Service Provider must notify Prospective Users on the Existing Capacity Queue of the requirement to provide company CEO (or equivalent) signoff within one Month after the commencement of this Access Arrangement.

(d) A Prospective User must, within 28 Days of receiving a notification from Service Provider under paragraph (c), obtain company CEO (or equivalent) signoff to retain its current position in the Existing Capacity Queue.

(e) If company CEO (or equivalent) signoff pursuant to paragraph (b) is not obtained by the end of the 28 Day period, the Prospective User will lose its place in the Existing Capacity Queue and be removed from the Existing Capacity Queue by Service Provider.

(f)	The Existing Capacity Queue will function in accordance with the access arrangement preceding this Access Arrangement during the period of one Month and 28 Days after the commencement of this Access Arrangement.
(g)	Prospective Users with Requests on the developable capacity queue immediately prior to this Access Arrangement commencing will retain their order of priority for Developable Capacity after the commencement of this Access Arrangement.

11 Miscellaneous changes

This attachment sets out miscellaneous changes, typographical errors and omissions identified in APTPPL'S revised access arrangement proposal which require correction as part of the revisions in the final decision.

11.1 Final Decision

The AER has reviewed the revised access arrangement and revised access arrangement information submitted by APTPPL. The AER has identified miscellaneous changes, typographical errors and omissions within APTPPL's revised access arrangement proposal and revised access arrangement information. The AER considers that the identified miscellaneous changes, typographical errors and omissions are relevant to the AER's proposed access arrangement and access arrangement information.

11.1.1 Miscellaneous changes

The AER has identified the following miscellaneous changes required to APTPPL's revised access arrangement proposal and revised access arrangement information. These miscellaneous changes are relevant to the AER's proposed access arrangement and access arrangement information.

Access arrangement period

The AER proposes to revise the access arrangement period for the RBP from 12 April 2012–30 June 2017 to 1 September 2012–30 June 2017.[485] The delay is partly due to the fact it was necessary for the AER to stop-the-clock during the review of APTPPL's revised access arrangement proposal. The AER disregarded elapsed time under r. 11(1) of the NGR for the purposes of:

- requesting APTPPL to provide information relevant to the AER's decision on APTPPL's access arrangement proposal, in response to a general information notice issued under s. 42 of the NGL[486]
- allowing for public submissions on APTPPL's access arrangement proposal and on the AER's a draft decision on APTPPL's access arrangement proposal.[487]

The time taken for the AER to prepare its final decision has taken into account these stop-the-clock provisions. The elapsed time therefore reflects the changes required to the access arrangement period. Further, the 1 September start date of the access arrangement period also takes account of the need to meet minimum consultation time frames for undertaking an access arrangement review as set out in the NGR.[488] The AER has discussed with APTPPL that the access arrangement period will change to commencing on 1 September 2012.[489] As a result, the AER requires APTPPL to amend its access arrangement period as set out in revision 11.1. The AER proposes the following revision to:

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485 NGR, r. 3(d).
486 NGR, r. 11(1)(b).
487 NGR, r. 11(10(c).
488 NGR, rr. 58(1)(c), 59(3) and (5)(c)(iii), 61.
489 AER, email to APTPPL, RBP access arrangement period, 25 July 2012, APTPPL, email to AER, RE: RBP access arrangement period, 25 July 2012.

Revision 11.1

Amend the revised access arrangement and revised access arrangement information and make all other necessary changes so as to be consistent with the following:

- change the access arrangement period from '12 April 2012–30 June 2017' to '1 September 2012 to 30 June 2017'.

Website at which a description of the pipeline can be inspected

The AER requires the amendment to the reference to APTPPL's website at which a description of the RBP can be inspected.[490] The AER notes the reference to the APTPPL's website in section 1.3 of APTPPL's proposed revised access arrangement proposal is incorrect.[491] Rule 48 (1)(a) of the NGR requires a full access arrangement to identify the pipeline to which the access arrangement relates and include a reference to a website at which a description of the pipeline can be inspected. The AER confirmed with APTPPL that the website at which a description of the RBP can be inspected is in error which should be corrected.[492] As a result, the AER requires APTPPL to amend the reference to its website at which a description of the RBP can be inspected as set out in revision 11.2. The AER requires the following revisions to make the revised access arrangement proposal acceptable:

Revision 11.2

Amend the revised access arrangement proposal by deleting all references to the website address 'http://www.apa.com.au/our-business/economic-regulation/qld-gas-assets.aspx' and replace it with 'http://www.apa.com.au/our-business/economic-regulation/qld-.aspx'

Company name

The AER requires the amendment to all references to the company name of the service provider. The AER's inquiries indicated that the correct name of the company is APT Petroleum Pipelines Pty Limited and not APT Petroleum Pipelines Limited as set out in APTPPL's revised access arrangement proposal. The AER confirmed with APTPPL that this is a typographical error which should be corrected.[493] The AER requires the following revisions to make the revised access arrangement and revised access arrangement information acceptable:

Revision 11.3

Amend the revised access arrangement and revised access arrangement information and make all other necessary changes so as to be consistent with the following:

- delete all references to 'APT Petroleum Pipelines Limited' and replace it with 'APT Petroleum Pipelines Pty Limited ACN 009 737 393'

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490 NGR, r. 48(10(a).

491 APTPPL, *Revised access arrangement proposal*, May 2012, p. 1.

492 AER, email to APTPPL, *RE: RBP - Responses to AER Queries*, 24 July 2012; AER, email to APTPPL: *Link to description of the RBP*, 31 July 2012; APTPPL, email to AER, *RE: Link to description of the RBP*, 31 July 2012..

493 APTPPL, email to the AER, *RE: RBP - Responses to AER Queries*, 23 July 2012, AER, email to APTPPL, *RE: RBP - Responses to AER Queries*, 23 July 2012.

11.1.2 Typographical errors and omissions

The revisions set out below include other typographical errors and omissions identified by the AER after reviewing the revised access arrangement proposal and revised access arrangement information. The AER requires the following revisions to make the revised access arrangement and revised access arrangement information acceptable:

Revision 11.4

Amend the revised access arrangement to:

- delete all references to 'Capacity' and replace with 'capacity'
- delete the words 'Registration of Interest for Service to be provided by Developable Capacity' in section 1.8 and replace it with 'Form of Request for Service'.
- delete the word 'MJ/m3' in the first paragraph in section 2.2.3 and replace it with (MJ/m3)
- insert the words 'mega joules per cubic meter' after 40 in the first paragraph in section 2.2.3
- delete the words 'section 3' in section 2.2.7 and replace with 'section 4'
- insert the words 'of this Access Arrangement' after the words 'section 4' in the third paragraph in section 3.1
- delete the words 'other applicable Tariff Charges specified in section 4.2.4' in section 4.2.1 and replace with 'Other Tariff Charges applicable'
- insert the words 'of this Access Arrangement' after the words 'section 4' in the first paragraph in section 4.3.4
- delete the word 'clause' and replace it with 'section' in section 4.3.5
- insert the words 'of this Access Arrangement' after the numbers '2.2.4' in section 4.3.5
- delete all references to 'business days' in sections 4.5.4 and 4.5.5 and replace with 'Business Days'
- delete the word 'clause' in section 5.5 and replace it with 'section'
- delete the reference to 'section 6.2(c)' in the definition of Existing Capacity Queue Deposit in schedule 2 and replace it with 'section 6.4(f)'
- delete the word 'gas' in section 7.1(c) and replace it with 'Gas'
- delete the words 'Capacity Tariff and Throughput Tariff' in Note 1 of the Details and replace it with 'Capacity tariff and throughput tariff'
- insert the words 'and the accompanying Access Arrangement Information approved by the AER for the Pipeline' in the first sentence in section 2.1 in schedule 2 after the words 'Access Arrangement'

- include the words ‘of the Terms and Conditions’ at the end of the sentence for the following definitions:
  - Affected Party
- include the words ‘of this Access Arrangement’ at the end of the sentence for the following definitions:
  - Annual Reference Tariff Adjustment Formula
  - Authorised Overrun Rate
  - Charge
  - Consumer Price Index or CPI
  - Cost Pass-through Reference Tariff Adjustment Mechanism
  - Daily Variance, Daily Variance Charge, Daily Variance Quantity
  - Daily Variance Allowance
  - Daily Variance Rate
  - Existing Capacity
  - Firm Service
  - Forecast Capital
  - Imbalance Allowance
  - Reference Service
  - Request
  - Revisions Commencement Date
  - Revisions Submission Date
  - Unauthorised Overrun
- include the following definitions in schedule 2:
  - Capacity Charge has the meaning given in section 4.2.2 of this Access Arrangement.
  - Capacity Tariff has the meaning given in the Details of this Access Arrangement
  - CEO has the meaning given in section 6.2 (b) of this Access Arrangement
  - Cost Pass-through Event/s has the meaning given to it in section 4.5.2 of the Access Arrangement

- Existing Capacity Queue has the meaning given to it in section 6.1(a) of this Access Arrangement
- Imbalance Charge has the meaning given in section 4.3.2(b) of this Access Arrangement
- Indication has the meaning given in section 6.6(b) of this Access Arrangement
- Investigation has the meaning given in section 6.5(d)(iv) of this Access Arrangement
- Lytton Lateral has the meaning given in section 1.3(b) of this Access Arrangement
- Mainline has the meaning given in section 1.3 (a) of this Access Arrangement
- Materiality Threshold has the meaning given in section 4.5.3 of this Access Arrangement
- Other Tariff Charges has the meaning given in section 4.2.4 of this Access Arrangement
- Peat Lateral has the meaning given in section 1.3(c) of this Access Arrangement
- Prudential Requirements has the meaning given in Schedule 6A and clause 2 of the Terms and Conditions
- Service Provider means APT Petroleum Pipelines Proprietary Limited ACN 009 737 393
- Throughput Charge has the meaning given in section 4.2.3 of this Access Arrangement
- Throughput Tariff has the meaning given in the Details of this Access Arrangement
- Unauthorised Overrun Charge has the meaning given in section 4.3.1(c) of this Access Arrangement
- Unauthorised Overrun Rate has the meaning given in the Details of this Access Arrangement

- delete the words '30 days' in the definition of Insolvent in schedule 2 and replace it with '30 Days'
- delete all references to 'National Gas Law' except the reference in the definition of National Gas Law in schedule 2 and replace it with 'NGL'.
- delete all references 'National Gas Rules' except the reference in the definition of National Gas Rules in schedule 2 and replace it with 'NGR'
- delete the words 'Australian Energy Regulator' in the definition of Authority in schedule 2 and replace it with 'AER'
- delete the words 'overrun MOS' after the definition of Overrun Charge in schedule 2 and replace it with 'Overrun MOS'
- insert the words 'Schedule 5B of this Access Arrangement into the definition of Prior Gas Specifications in Schedule 2 after the word 'in'
- insert the words 'and Nominated have' into the definition of Nomination in schedule 2 after the word 'Nominate'

- delete the word ‘has’ in the last line of the definition of ‘Nomination’ in Schedule 2
- delete the reference to ‘APTPPL’ in the definition of Relevant Tax in schedule 2 and replace it with ‘Service Provider’
- insert the words ‘Scheduled and Scheduling have a corresponding meaning’ at the end of the definition of ‘Schedule’ in schedule 2
- delete the words ‘receipt point and delivery point’ in the definition of Schedule in schedule 2 and replace it with ‘Receipt Point and Delivery Point’
- delete the words ‘STTM Procedures’ in the definition of STTM Rules in schedule 2 and replace it with ‘STTM procedures’
- delete the words ‘Cost Pass-through Reference Tariff Variation Mechanism’ in the definition of Reference Tariff Adjustment Mechanism in schedule 2 and replace it with ‘Cost Pass-through Reference Tariff Adjustment Mechanism’
- delete ‘and’ at the end of section 2.2 (d) in schedule 2
- insert a semicolon ‘;and’ at the end of section 2.2 (e) in schedule 2
- insert the words ‘(f) all definitions above, have the same meaning in the Access Arrangement Information’ in section 2.2 in schedule 2 after section 2.2 (e)
- delete the word ‘Facilities’ in the third paragraph in schedule 4 and replace it with ‘facilities’
- delete the word ‘and’ in the second last bullet point in part B in schedule 5
- insert the words ‘kilopascal gauge’ after ‘KPag’ in the fifth bullet point in part B in schedule 5
- delete the word ‘KPag’ in the fifth bullet point in part B in schedule 5 and replace it with (KPag)
- insert the words ‘megajoules’ after ‘MJ’ in the tenth bullet point in part B in schedule 5
- delete the word ‘MJ’ in the tenth bullet point in part B in schedule 5 and replace it with (MJ)
- insert the words ‘milligrams per cubic metre’ after ‘mg/m3’ in the fourteenth bullet point in part B in schedule 5
- delete the word ‘mg/m3’ in the fourteenth bullet point in part B in schedule 5 and replace it with (mg/m3)
- delete the word ‘and’ in the sixteenth bullet point in part B in schedule 5
- insert the bullet point ‘not contain more than 112 mg/m3 of water vapour; and’ in part B in schedule 5 after the bullet point ‘not contain more than 3% by volume of carbon dioxide;’
- delete the heading ‘Registration of Interest for Service to be provided by Developable Capacity’ in schedule 6B and replace it with ‘Form of Request for Service’.

Revision 11.5: Amend the terms and conditions in schedule 3 in the revised access arrangement proposal to:

- delete ‘the words terms and conditions’ in clause 1 and replace it with ‘Terms and Conditions’
- delete the words ‘7 days’ in clause 2 and replace it with ‘7 Days’
- insert into clause 10 the words ‘of the Terms and Conditions’ after the words clause 9
- delete the word ‘Shipper’ in clause 10A and replace it with ‘shipper’
- delete the words ‘Gas nominated’ in clause 12 and replace it with ‘Gas Nominated’
- delete the word ‘scheduling’ in clause 12(a) and replace it with ‘Scheduling’
- delete the word ‘nominations’ in clause 12(b) and replace it with ‘Nominations’
- delete the words ‘authorised overruns’ in clause 12(c) and replace it with ‘Authorised Overruns’
- delete the word ‘nominated’ in clause 12(d) and replace it with ‘Nominated’
- insert into clause 13 the words ‘of the Terms and Conditions’ after the number ‘14’
- delete the words ‘authorised overruns’ in clause 15(c) and replace it with ‘Authorised Overruns’
- insert into clause 16 the words ‘of the Terms and Conditions’ after the number ‘15’
- delete the words ‘4 hours’ in clause 23 and replace it with ‘4 Hours’
- insert into clause 24 the words ‘of the Terms and Conditions’ after the number ‘23’
- insert into clause 36 the words ‘of the Terms and Conditions’ after the number ‘35’
- delete the word ‘gas’ in clause 47 and replace it with ‘Gas’
- insert into clause 47 the words ‘of the Terms and Conditions’ after the number ‘45’
- delete the word ‘gas’ in clause 48 and replace it with ‘Gas’
- delete the word ‘gas’ in clause 48(b) and replace it with ‘Gas’
- delete the word ‘gas’ in clause 49 and replace it with ‘Gas’
- delete the word ‘gas’ in clause 50 and replace it with ‘Gas’
- insert into clause 51 the words ‘of the Terms and Conditions’ after the number ‘52’
- insert into clause 59 the words ‘of the Terms and Conditions’ after the number ‘62’
- delete the words ‘(Title)’ in clause 59
- delete the word ‘Shipper’ in clause 60 and replace it with ‘shipper’
- delete the word ‘gas’ in clause 61(b) and replace it with ‘Gas’
- delete the word ‘gas’ in clause 62(a) and replace it with ‘Gas’

- delete the word ‘Shippers’ in clause 66(c) and replace it with ‘shippers’
- delete the words ‘12 months’ in clause 70 and replace it with ‘12 Months’
- delete the words ‘terms’ in clause 73(d) and replace it with ‘Terms’
- delete the words ‘10 days’ in clause 75 and replace it with ‘10 Days’
- delete the words ‘Monthly’ in clause 81 and replace it with ‘monthly’
- delete the words ‘tax’ in clause 82 and replace it with ‘Tax’
- delete the words ‘tax’ in clause 84 and replace it with ‘Tax
- delete the words ’12 months’ in clause 84 and replace it with ’12 Months’
- delete the word ‘gas’ in clause 87(c)(iii) and replace it with ‘Gas’
- insert into clause 87(c)(v) the words ‘of the Terms and Conditions’ after the number ‘89’
- delete the word ‘gas’ in clause 93(c) and replace it with ‘Gas’
- delete the word ‘gas’ in clause 93(d) and replace it with ‘Gas’
- insert into clause 94 the words ‘of the Terms and Conditions’ after the number ‘96’
- delete the word ‘section’ in clause 98 and replace it with ‘clause’
- delete in clause 99 the word ‘section’ and replace it with ‘clause’
- insert into clause 99 the words ‘of the Terms and Conditions’ after the number ‘98’.

Revision 11.6: Amend the revised access arrangement information to:

- delete all references to ‘pipeline’ and replace with ‘Pipeline’ except for the following sentence ‘Opened in 1969, the RBP is Australia’s oldest natural gas pipeline.’ in the third paragraph of section 1
- delete all references to 'APT Allgas Energy Pty Limited', in the Contents and replace it APT Petroleum Pipelines Pty Limited ACN 009 737 393 respectively
- delete all references to ‘National Gas Rules 2008’ and replace it with ‘National Gas Rules’
- delete the reference to ‘132 TJ’ in the third paragraph of section 1 and replace it with ‘219 terajoules (TJ)
- insert the words ’petajoules’ after ‘PJ’ in the third paragraph in section 1
- delete the word ‘PJ’ in the third paragraph in section 1 and replace it with (PJ)
- delete all references to ‘access arrangement information’ and replace it with ‘Access Arrangement Information’

- delete all references to ‘access arrangement’ and replace it with ‘Access Arrangement’
- delete all references to ‘access arrangement period’ and replace it with ‘Access Arrangement Period’
- delete all references to ‘AAI’ and replace it with ‘Access Arrangement Information’
- delete all references to ‘reference services’ and replace it with ‘Reference Services’
- delete all references to ‘11 April 2012’ and replace it with ‘30 August 2012’
- delete the words ‘next AA’ in section 1.1 and replace it with ‘Access Arrangement’
- delete the words ‘last AA review’ in the first paragraph of section 8 and replace it with ‘2006–11 Access Arrangement review’
- delete all references to ‘service provider’ and replace it with ‘Service Provider’
- delete the reference to ‘2011/12’ in the first row of the table 8.1 in section 8 and replace it with ‘2016/17’
- delete all references to ‘services’ and replace it with ‘Services’
- delete the words ‘Forecast Revenue Requirement’ in the second paragraph in section 10.3 and replace it with ‘forecast revenue requirement’
- delete the sentence ‘The net present value of the reference tariff revenue stream when discounted at the nominal vanilla WACC of 9.81% is $264.9 million.’ under table 10.1 in section 10.3 and replace it with ‘The net present value of the reference tariff revenue stream when discounted at the nominal vanilla WACC of 7.31% is $212.9 million’
- delete the words ‘Revenue Stream’ in the heading of table 10.2 and replace it with ‘revenue stream’
- delete the sentence ‘The net present value of the reference tariff revenue stream when discounted at the nominal vanilla WACC of 9.81% is $264.9 million which is equal to the present value of the revenue requirement.’ under table 10.2 in section 10.3 and replace it with ‘The net present value of the reference tariff revenue stream when discounted at the nominal vanilla WACC of 7.31% is $212.9 million which is equal to the present value of the revenue requirement.’
- delete the reference to ‘(in $2012/13)’ in the first paragraph in section 10.4 and replace it with ‘ ($2012/13).
- delete all references to ‘negotiated services’ and replace it with ‘Negotiated Services’
- delete all references to ‘Opening capital base’ and replace it with ‘Opening Capital Base’
- delete all references to ‘regulatory year’ and replace it with ‘Regulatory Year’
- delete all references to ‘reference tariff’ and replace it with ‘Reference Tariff’
- delete all references to ‘cost pass-through event’ and replace it with ‘Cost Pass-Through Event/s’

- delete all references to ‘Total revenue’ and replace it with ‘Total Revenue’
- delete the reference to ‘goods and services tax’ and replace it with ‘Goods and Services Tax’
- delete the ‘gas’ in section 10.1 and replace it with ‘Gas’
- delete the ‘gas’ in the first paragraph in section 11 and replace it with ‘Gas’
- delete the reference to ‘capital base’ and replace it with ‘Capital Base’
- delete the words in the first row in table 6.1 and replace with the following row:

Indicator	Unit	2012-13	2013-14	2014-15	2015-16	2016-17

- delete the reference to ‘Key Performance’ in table 6.1 and replace it with ‘Key performance’
- delete the words ‘Cost Pass-through Reference Tariff Variation Mechanism’ in the section 10.4.1 and replace it with ‘Cost Pass-through Reference Tariff Adjustment Mechanism’.

Part C: Appendices

A Definitions and terms and conditions applying to the Firm Service

Matter	DEFINITIONS and INTERPRETATION - AER's proposed amendments in the draft decision	APTPPL's response as per revised proposal	AER's consideration of APTPPL's response and submissions	Revisions
Gross Negligence/Wilful Misconduct	**A.2** Adopt the definition of Wilful Misconduct as follows: Wilful Misconduct means any act or omission done or omitted to be done with deliberate or reckless disregard for foreseeable, harmful and avoidable consequences which is not otherwise an act or omission done in good faith.	APTPPL accepted the deletion of the definition of 'Gross Negligence/Wilful Misconduct' and the inclusion of the AER's proposed definition of Wilful Misconduct. APTPPL proposed to also include a definition of 'Gross Negligence' to provide certainty and clarity regarding the two concepts of Gross Negligence and Wilful Misconduct. This responds to the specific concerns raised by the AER in its draft decision that the combined definition increased uncertainty. It also clarifies the difference between negligence and gross negligence as the difference is not clear under Australian common law. APTPPL has defined 'Gross Negligence' to mean ' a negligent act or omission, committed with reckless disregard for the consequences and the circumstances where the negligent party knows or ought to know that those consequences would likely result from the act or omission, and which is not due to an honest mistake, oversight, error of judgement or accident.' APTPPL has also made consequent amendments to the references to Gross Negligence and Wilful Misconduct in clauses 16(d), 57, 87(a), 88, 89(a), 90 and 96[494] (these are discussed below in relation to Limitation of Liability & Indemnity Clauses 87–91).	The AER received no other industry submissions in relation to the definition of 'Wilful Misconduct'. The AER approves the definition of 'Wilful Misconduct' in APTPPL's revised access arrangement, as it provides certainty. The AER received no other industry submissions in relation to APTPPL's proposed definition of 'Gross Negligence' (The AER received a submission from APG relating to the use of the defined term 'Gross Negligence' in clause 57 of the revised access arrangement proposal[495]). The AER accepts APTPPL's definition of 'gross negligence'. The AER considers that, given the meaning of 'gross negligence' is unclear at common law, defining the term ensures clarity for both APTPPL and Users.	

494 APTPPL, *Revised access arrangement submission*, May 2012, p. 74.
495 APG, *Submission to the AER*, June 2012, p.7.

Queuing policy	**A.3** Delete following definitions from definitions and interpretation schedule 2: - Existing Capacity Notice - Notice of Auction for Developable Capacity - Notice of Auction for Existing Capacity - Open Season Existing Capacity Closing Date	APTPPL has accepted the deletion of the following definitions: - Notice of Auction for Developable Capacity - Notice of Auction for Existing Capacity - Open Season Existing Capacity Closing Date However, APTPPL has not accepted deletion of ''Existing Capacity Notice' and proposed to change definition to: 'Existing Capacity Queue Deposit has the meaning given to it in section 6.2(c)'[496].	The AER approves the amended definition.	

[496] APTPPL, *Revised access arrangement submission*, May 2012, p25.

Relevant Tax	**A.4** Amend definition of Relevant Tax as follows: 'Relevant Tax' means any royalty, duty, excise, tax, impost, levy, fee or charge (including, but without limitation, any goods and services tax) imposed by the Commonwealth of Australia, any State or Territory of Australia, any local government or statutory authority or any other body (authorised by law to impose such an impost, tax or charge) on or in respect of the Network (or any part of it) or on or in respect of the operation, repair, maintenance, administration or management of the Network (or any part of it) or on or in respect of the provision of any Network Service (other than a levy, fee or charge that arises as a result of APTPPL's breach of a law or failure to pay a tax or charge by the due date for payment).	APTPPL's proposed definition for 'Relevant Tax' is based on that included in the National Electricity Rules with changes limited to differences in nomenclature between the electricity and gas rules. The AER has previously stated a preference for consistency in cost pass through arrangements between electricity and gas, and in line with this preference, APTPPL adopted the definition in the National Electricity Rules for a Relevant Tax. This reasoning is stated on page 104 of APTPPL's revision proposal. APTPPL has adopted this amendment, however makes some amendments to the drafting to refer to transmission pipelines as opposed to networks, and Service as opposed to Network Service. [497]	The AER received no other industry submissions in relation to the definition of 'Relevant Tax'. The AER approves APTPP's proposed definition for 'Relevant Tax. The AER considers that replacement of the word 'Network' with 'Pipeline' in the AER's proposed definition set out in the draft decision is appropriate for the transmission pipeline as opposed to Network Service.	
Matter / clause	**TERMS AND CONDITIONS** **AER's proposed amendments in the draft decision**	**APTPPL's response as per revised proposal**	**AER's consideration of APTPPL's response and submissions**	**Revisions**
Nominations Clauses 3-10	**A.5** Delete clause 8(b) from the access arrangement proposal.	APTPPL has not adopted the AER's amendment and provided the following additional information in support of its original drafting of this clause. APTPPL submitted that there may be circumstances where APTPPL is given a direction by AEMO or by another government or semi-governmental authority not relating to Queensland STTM. For example, gas	The AER accepts APTPPL's inclusion of a reference to an 'Authority' in clause 8(b) given the potential circumstances where APTPPL may be given a direction from an 'Authority' to which it must comply. The AER notes that the failure of a User to promptly comply with all reasonable directions	

[497] APTPPL, *Revised access arrangement submission*, May 2012, p. 76.

		examiners and emergency services (Police, Fire Brigade) could give APTPPL a directive to shut-in a particular delivery point if they considered it endangered lives or property. Therefore APTPPL submits that the wider reference to an Authority is needed. APTPPL has also identified the need for a further clause (clause 10A) dealing with contingency gas quantities as contingency gas will affect users' nominations. The need for this clause has only become apparent since the commencement of the STTM in Queensland. APTPPL submits the following clause 10A be included in the access agreement; 'User must revise any Nominations necessary to account for any quantities of contingency gas which are scheduled by AEMO for Shipper's account under the STTM Rules.' [498]	from the Service Provider given in order to facilitate compliance with any direction or requirement of an 'authority' may have significant legal and commercial implications for the Service Provider. APG submitted that should the clause remain it should stipulate that it is limited to those directions or requirements of an Authority that are binding on the Service Provider or User.[499] The AER considers that clause 8(b) is acceptable as any directions from the Service Provider to the User are subject to a requirement of reasonableness and are only to be given to implement directions or requirements of a clearly identified 'Authority' The AER considers that a contractual obligation on Users to promptly comply with all reasonable directions from a Service Provider in order to facilitate compliance with a direction or requirement of an 'Authority' that is clearly defined in the access arrangement is consistent with an objective to promote the efficient investment in, and operation and use of natural gas services for the long term interests of consumers with respect to quality, safety, reliability and security of supply of natural gas. It ensures that directions or requirements from an 'Authority' are able to be facilitated. The AER approves APTPPL's inclusion of clause 10A that requires a User to revise any Nominations necessary to account for any	

[498] APTPPL, *Revised access arrangement submission*, May 2012, p. 77.

[499] APG, *Submission to the AER*, June 2012, pp. 6–7.

			quantities of contingency gas which are scheduled by AEMO for Shipper's account under the STTM rules. APG submitted that clause 10A is unnecessary as the STTM Rules and Procedures clearly define requirements on participants should contingency gas be called.[500] The AER considers that clause 10A provides greater certainty by placing specific obligations on the User by making explicit reference to the STTM rules.	
Curtailment Clauses 15–16	**A.6** Maintain the original wording of clause 16 as follows: If Service Provider interrupts or curtails receipts or deliveries of quantities of Gas under clause 15, Service Provider is not liable to the User in respect of interruption or curtailment if the interruption or curtailment:	APTPPL has not adopted the AER's amendment A.6. APTPPL submitted that the inclusion of 'failure to schedule' in the limitation of liability is intended to permit APTPPL to be relieved of the obligation to Schedule (clause 11) in certain circumstances, namely the circumstance where an allowable event occurs. These are events which are specifically set out in the agreement - such as a planned interruption undertaken in accordance with clauses 35 or 36 - that means that APTPPL cannot schedule gas for a particular shipper. The AER's exclusion of 'failure to schedule' would mean APTPPL is in breach of the agreement for failure to schedule for such an allowable event. APTPPL would instead need to schedule and then interrupt gas (before any has flowed) to ensure that flows do not exceed pipeline capacity (which would be administratively cumbersome). APTPPL considers that this approach would undermine rather than contribute to certainty for shippers as to expected pipeline flows. In all cases (failure to schedule, interruption or curtailment), the shipper may be required to purchase gas from an	The AER approves APTPPL's amendment in relation to including 'failure to schedule' in clause 16. However, the AER proposes consequential revisions to clauses 16(b) and 16(d) to ensure that users are provided with notice under those clauses of a failure to schedule. The AER accepts APTPPL's submission that a requirement upon the Service Provider to schedule and then interrupt gas (before any has flowed) to ensure that flows do not exceed pipeline capacity may be administratively cumbersome. The AER therefore considers that it is appropriate to clarify that APTPPL is not liable for a failure to schedule (as well as the interruption of or curtailment of the receipts for deliveries of Gas) in certain circumstances listed in clause 16. In response to the AER's draft decision, APG submitted that including 'failure to schedule' in clause 16 is unnecessary as a failure to	**Revision A.1** Replace clauses 16(b) and 16(d) with the below clauses: Clause 16(b): is, in the Service Provider's opinion (acting reasonably), necessary in accordance with Good Engineering and Operating Practice to ensure the safe and efficient operation or integrity of the Pipeline and the Service Provider provides to the User as must notice of the failure to schedule, interruption or curtailment as is reasonably practicable; or

[500] APG, *Submission to the AER*, June 2012, pp. 6–7.

		alternative source or curtail demand, as the end result from all such events would be that gas did not flow as nominated by the shipper. APTPPL considers that it would be preferable for the shipper to be advised as soon as possible that nominated gas flows could not be scheduled because of an event listed in clause 16, such that they can make alternative arrangements, rather than schedule and then interrupt or curtail gas, which would be the only alternative available to APTPPL under clause 16 as amended by the AER. [501]	schedule would be captured under the terms interruption and/or curtailment. The AER has had regard to APG's submission. However, the AER is not certain that the terms 'interruption' or 'curtailment' do include a failure to schedule, and therefore considers that it is preferable to clarify that a failure to schedule is covered by clause 16. The AER does not consider that the inclusion of the words 'failure to schedule' materially affects the Service Provider's liability to Shippers for scheduling gas. The AER considers that an 'allowable event', as referred to in clause 16, is sufficiently detailed and provides sufficient clarity as to when the Service Provider will not be liable to Shippers for failing to schedule gas.	Clause 16(d): results from damage to adjoining/interconnecting pipelines or facilities used to provide the Service and such damage is not caused by the Service Provider's breach of the Transportation Agreement, Negligence or Wilful Misconduct and the Service Provider provides to the User as much notice of the failure to schedule, interruption or curtailment as is reasonably practicable; or
Market Operator Service (MOS) Clauses 17-20	**A.7** Amend clause 20 as follows: If the provision of a Transportation Service under the Gas Transportation Agreement causes or would cause an imbalance which exceeds or would exceed the Cumulative Imbalance Limit then Transporter may, in its absolute discretion, cease to provide or suspend the MOS Decrease Service and/or the MOS Increase Service to Shipper.	APTPPL adopted the amended clause 20 in part, however makes amendments to the drafting to refer to the terminology/ definitions in STTM Rules. That is, use of 'allocate' instead of receive/ supply, so as to ensure consistent with terminology used in the access arrangement. The terminology in clauses 18 and 19 has also been amended. [502] APTPPL submitted that these revisions do not change the substance of the clause. [503]	The AER did not receive any other industry submissions in relation to clause 20. The AER accepts APTPPL's proposed changes in the wording of the clause from 'receive/supply' to 'allocate' as this does not affect the substance of the clause. 'Allocate' does not impose specific duties or obligations upon parties under the STTM rules in Part 20 of the NGR. The AER considers that there is sufficient clarity regarding the supply and receipt of gas	

501 APTPPL, *Revised access arrangement submission*, May 2012, p. 78.
502 APTPPL, *Revised access arrangement submission*, May 2012, p. 79.
503 APTPPL, *Revised access arrangement proposal*, May 2012, p. 19.

			between the Service Provider and User to meet the National Gas Objectives.	
Warranties & Representations Clause 60	**A.8** Delete clause (60(b))	APTPPL has not adopted the AER's amendment. It has submitted that r. 380 requires contract holders to provide information to the AEMO as listed in r.381. As this obligation rests on both APTPPL and the shipper, APTPPL retains responsibilities under the rules to ensure that information provided to AEMO is accurate. APTPPL's only source of that information is from users and therefore users should be required to provide correct information. APTPPL does not agree that this provision absolves APTPPL of obligations to verify the authenticity or correctness of information provided to AEMO. Further, APTPPL does not agree with the AER that including an obligation on a user to ensure that information provided to APTPPL is accurate could be contrary to the long term interests of consumers. On the contrary, APTPPL considers that the absence of such an obligation on users to provide accurate information to APTPPL is likely to lead to additional costs for APTPPL where inaccurate information is provided to either itself or AEMO. APTPPL has already been required to deal with circumstances where users have provided incorrect contract reference information to AEMO in their MOS offers which had the potential to cause APTPPL's MOS allocations for the day to be rejected and default allocations applied. This outcome would have distorted intended market outcomes and resulted in unintended wealth transfer amongst STTM Users. APTPPL has also included a definition of Contract Reference Information in the clause to clarify what	The AER accepts APTPPL's reasoning in relation to placing an obligation on Users to provide accurate 'Contract Reference Information' to itself and AEMO. The AER accepts the definition of 'Contract Reference Information' to be the 'unique contract identifier issued by the Service Provider to Shipper used to identify contracts for the purpose of MOS allocation of Gas under the STTM'. APG submitted that should this clause remain the obligation on User's should be limited to '*use reasonable endeavours to ensure* that Contract Reference Information provided by or on behalf of the User to Service Provider or AEMO be accurate.[505] The AER approves clause 60(b) as it considers that, given Service Providers have limited ability to verify complex information regarding a User's ability, demands and forecast requirements which a Service Provider must rely on to provide services to other Users, an obligation on Users to ensure the accuracy of information that is within clearly defined parameters promotes the efficient operation and use of natural gas services for the long term interests of consumers with respect to price, reliability and security of supply of natural gas.	

		information must be provided by users with accuracy.[504]		
Limitation of Liability & Indemnity Clauses 87–90 Clauses 16(d), 57 and 96(a)	**A.9** Amend clauses 87(a), 88, 89(a) and 90 to replace Gross Negligence/Wilful Misconduct with the phrase 'gross negligence or wilful misconduct'.	**Clauses 87 – 90** APTPPL adopted the AER's removal of the combined definition for Gross Negligence/Wilful Misconduct, as well as the AER's inclusion of a definition for Wilful Misconduct as approved in the Amadeus Gas Pipeline access arrangement as discussed above in relation to amendment A.2. APTPPL considers, however, that certainty and clarity is improved by including a definition in the access arrangement for Gross Negligence, in place of leaving this as an undefined term. APTPPL has therefore included a definition for Gross Negligence in the revised access arrangement (which is set out above in this table (p. 81)) **Clauses 16(d), 57 and 96(a)** APTPPL's access arrangement proposal used the term 'negligence' in clauses 16(d), 57 and 96(a), rather than the combined term of 'Gross Negligence/Wilful Misconduct'). APTPPL's revised access arrangement proposal: • replaced the term 'negligence' in clauses 16(d) and 57 with 'Gross Negligence', without providing any supporting reasons for the amendments, and • included the term 'Gross Negligence' in addition to 'negligence' in clause 96(a), without providing any supporting reasons for the amendment.	As discussed in relation to A.2 above, the AER approves APTPPL's definition of 'gross negligence'. **Clauses 87 – 90** The AER has not received any industry submissions relating to the use of the defined term 'gross negligence' or 'wilful misconduct' in the context of clauses 87-90. The AER considers that APTPPL's proposed use of the defined terms 'gross negligence' and 'wilful misconduct' do not cause any significant or unreasonable imbalance of liability between the Service Provider and the User with respect to clauses 87(a), 88, 89(a) and 90. The AER notes that the term 'gross negligence': • reduces both the Service Provider's and the User's mutual liability with respect to clauses 87(a) and 90 • reduces the User's liability to the Service Provider with respect to clause 89(a), and • minimises costs passable onto Users by allocating a lower amount of risk to the Service Provider with respect to clause 88. The AER considers that APTPPL's proposed use of 'gross negligence' as defined with	**Revision A.2** Replace 'gross negligence' with 'negligence' in clause 16(d) and clause 57.

505 APG, *Submission to the AER*, June 2012, pp. 6–7.

504 APTPPL, *Revised access arrangement submission*, May 2012, p. 80.

			respect to clauses 87-90 is consistent with the efficient operation and use of natural gas services for the long term interests of consumers of natural gas with respect to safety, reliability and security of supply of natural gas. **Clauses 16(d), 57 and 96(a)** The AER has not received any industry submissions in relation to the use of the term 'Gross Negligence' in clauses 16(d) and 96(a). In relation to clause 57, APG submitted that the use of 'gross negligence' instead of 'negligence' weakens the Service Provider's liability to an unacceptable level with (possession of gas and responsibility).[506] As noted above, APTPPL has not provided reasons as to why the term 'negligence' was replaced with 'Gross Negligence' in clauses 16(d) and 57 in its revised access arrangement proposal. The AER does not accept APTPPL's propose use of the defined term 'gross negligence' in clauses 16(d) and 57 of the access arrangement. The AER considers that the use of 'gross negligence' in relation to clause 16(d) and 57 may unreasonably reduce the Service Provider's liability to an unacceptable level creating an imbalance in liability between Service Provider and User and therefore would not promote the NGO. The AER therefore requires that 'gross	

[506] APG, *Submission to the AER*, June 2012, p. 7.

			negligence' be replaced with the lower threshold of 'negligence' in clause 16(d) and 57 as set out in Revision A.2. 'Negligence' is a well established concept in the common law. The AER considers that this rebalances liability between Service Provider and User. The AER considers that the use of 'negligence' in clauses 16(d) and 57 will effectively promote the NGO. The AER notes that the threshold of liability with respect to clause 96(a) remains unchanged from the initial access arrangement proposal, as clause 96(a) also makes reference to 'negligence'. The AER approves clause 96(a) as set out in the revised access arrangement proposal.	
Limitation of Liability & Indemnity Clause 87–91	**A.10** Amend clause 91 as follows: Nothing in this Access Arrangement limits Service Provider's rights under Queensland STTM from time to time which limit or avoid Service Provider's liability to the User or any other person.	APTPPL has adopted the AER's amendment and has included additional words at the commencement of the clause 'without limiting Service Providers' other rights,..' APTPPL considers these additional words add certainty and clarity for users as they inform users that APTPPL may have other rights which limit its liability and that these other rights are not affected. [507] The amended clause 91 states: Without limiting Service Provider's other rights, nothing in this Access Arrangement limits Service Provider's rights under Queensland STTM from time to time which limit or avoid Service Provider's liability to the User or any other person.	The AER has not received any other industry submissions regarding the amendment of clause 91. The AER accepts APPTPL's proposed amendment in the wording of clause 91 as the additional wording 'Without limiting Service Provider's other rights' provides clarity to the users that APTPPL may have other rights (other than Queensland STTM) which limits liability and that these rights are not affected.	
Force Majeure	**A.11**	APTPPL has not adopted the AER's required	The AER has not received any other industry	**Revision A.3**

[507] APTPPL, *Revised access arrangement submission*, May 2012, p. 81.

Clauses 92-97	Delete the word 'reasonable' from clause 92.	amendment that the word 'reasonable' be deleted. It submitted that the clause is drafted with a condition precedent of 'reasonable' so that neither party is able to rely on it without first having implemented reasonable and prudent processes for dealing with events that are partly within their control. APTPPL does not agree that Force Majeure Events are limited to events for which the parties have absolutely no control. Many events which are commonly included in commercial Force Majeure clauses of this nature may be, to some extent, in the control of a Party. For example, strikes and lockouts in clause 92(b) are to some extent within the control of a party - i.e. a party with prudent management processes and policies may avoid a strike. For this reason, other safeguards are inserted into the clause (to prevent the spurious calling of Force Majeure) such that its effect must not be able to overcome by the exercise of due diligence, not able to be reasonably overcome or prevented. In the case of a strike, if a party could reasonably control the event or prevent or overcome it (say by settling the dispute on reasonable terms) the party would not be in a position to call Force Majeure. [508]	submissions regarding the deletion of the word 'reasonable' from clause 92. The AER does not accept APTPPL's response in relation to the use of the word 'reasonable' in clause 92. The AER notes that the term **'***force majeure*' has been previously defined as '…beyond the control' of a Party rather than 'the reasonable control…' of a Party as is the case in the AGP access arrangement..[509] The AER considers that this approach removes potential and unnecessary uncertainty caused by the inclusion of 'reasonable' to the test for the 'control' of a Party. The AER notes that the qualifying phrase 'that Party is not reasonably able to prevent or overcome' adds the necessary element of reasonableness to the test to satisfy APTPPL's concerns whilst maintaining commercial certainty for the Service Provider and Users. The AER requires that the word 'reasonable' be deleted from clause 92 as set out in revision A.3.	Delete the word 'reasonable' from clause 92.
Force Majeure Clauses 92-97	**A.14** Amend clause 93(c) as follows: the inability of the User or a person supplying Gas at or upstream of the Receipt Points to obtain a supply of Gas for transportation under the Transportation Agreement; or	APTPPL has not adopted the AER's amendment A.14 and submits the clause as previously drafted be reinstated, as follows: 'the inability of the User or a person supplying Gas at or upstream of the Receipt Points to provide gas at a Receipt Point for transportation under the Transportation Agreement;' APTPPL submitted it intends that the clause deal with	The AER has not received any other industry submissions regarding the amendment of clause 93(c). The AER considers that it is unreasonable for APTPPL to assume risk for transactions between Users and third parties to which APTPPL is one step removed. The AER considers that clause 93(c) as proposed by	

[508] APTPPL, *Revised access arrangement submission*, May 2012, p. 82.
[509] N.T. Gas Pty. Limited, *Access arrangement*, May 2011, p. 57.

		all circumstances where the User is unable to provide gas at a Receipt Point, including circumstances where an upstream gas supplier fails to supply gas to the user, or where upstream facilities not owned by APTPPL have constraints. For example, where a gas processing facility upstream of the Receipt Point shuts down or a pipeline upstream of APTPPL's pipeline has capacity constraints. Users are able to manage these risks under their contracts with gas suppliers and facility and pipeline service providers. APTPPL has no ability to manage these risks as it is not a party to these agreements. Further, APTPPL has not adopted the AER's revisions as they place certain circumstances where the User is unable to provide gas at a Receipt Point potentially within the definition of Force Majeure. The terms and conditions are necessarily limited to Force Majeure Events affecting the pipeline. It is not appropriate for the Service Provider to be required to take on the risk of Force Majeure of other parties, effectively assuming risk that sits outside the operation of the pipeline itself such as upstream producer risk. [510]	APTPPL reduces costs that are passable onto Users and provides greater certainty. The AER notes that APTPPL has a similar clause in its existing contracts with the shippers. The AER therefore accepts APTPPL's proposed amendments in clause 93(c).	
Force Majeure Clauses 92-97	**A.15** Amend clause 93(d) as follows: the inability of a person, other than the User, consuming the Gas at or downstream of the Delivery Points to take gas due to any event or circumstance within the control of that person.	APTPPL has not adopted the AER's amendment A.15 and submits the clause as previously drafted be reinstated. 'The reference needs to be to Users taking the gas as well as persons downstream of the Users. This is because contractually the Users are obligated to take the gas at delivery points and it is entirely within their control whether or not they take the gas whatever the downstream circumstances e.g. their own intended use or a third party's use of the gas. Also Users manage risks under their own insurances and with	The AER has not received any other industry submissions regarding the amendment of clause 93(d). The AER considers that it is unreasonable for APTPPL to assume risk for transactions between Users and third parties to which APTPPL is one step removed. APTPPL has not adopted the AER's revisions as they place certain circumstances where the User in unable to take delivery of the gas at a Delivery Point potentially within the definition of	

[510] APTPPL, *Revised access arrangement submission*, May 2012, p. 84.

		third parties under their own contractual arrangements which Service Provider is not a party to. Again, APTPPL has not adopted the AER's revisions as they place certain circumstances where the User in unable to take delivery of the gas at a Delivery Point potentially within the definition of Force Majeure. The terms and conditions are necessarily limited to Force Majeure Events affecting the pipeline. It is not appropriate for the Service Provider to be required to take on the risk of Force Majeure of other parties, effectively assuming risk that sits outside the operation of the pipeline itself such as downstream end user risk. [511]	Force Majeure. The AER agrees with APTPPL that it is not appropriate for the Service Provider to be required to take on the risk of Force Majeure of other parties, effectively assuming risk that sits outside the operation of the pipeline itself such as downstream end user risk. The AER considers that clause 93(d) as proposed by APTPPL provides greater certainty. The AER notes that APTPPL has a similar clause in its existing contracts with the shippers. The AER therefore accepts APTPPL's proposed amendments in clause 93(d).	

[511] APTPPL, *Revised access arrangement submission*, May 2012, p. 85.

B Rate of return – further technical analysis

B.1 Risk free rate

B.1.1 Advice from the RBA, Australian Treasury and AOFM on the Commonwealth Government Securities market

The AER and APTPPL agree on the methodology for estimating the risk free rate. This involves the averaging of yields on 10 year CGS over a period as close as practicably possible to the commencement of the access arrangement period. However, APTPPL's concerns over the value of the MRP appear to be largely driven by the current historically low yields on CGS.

Further to the analysis in attachment 2 and elsewhere in this appendix, the AER makes the following observations.

The CEG report submitted by APTPPL makes a number of submissions in relation to the CGS market. These include:

- The CGS market is out of line with other bond markets, e.g. the spread between CGS and semi-government bonds has widened considerably.
- Risk aversion amongst foreign investors is driving unprecedented demand for CGS.
- As Basel III requirements come into force, liquidity in the CGS market has decreased and will remain constrained for some time.
- The supply of CGS is small relative to the size of the economy.[512]

CEG referenced documents or speeches from the Reserve Bank of Australia (RBA) and Australian Office of Financial Management (AOFM) which it considered supported these views.

In 2007, the ACCC previously sought advice from the RBA and Australian Treasury on the functioning of the CGS market.[513] The AER published this advice with a previous decision.[514] The previous advice from the RBA stated:

> ...the Reserve Bank does not believe there are distortions in the CGS market and hence the CGS bond yield remains the best proxy for a risk free rate.[515]

The previous advice from the Australian Treasury stated:

> ...the nominal CGS market continues to display the attributes of a well functioning market.[516]

In response to the material submitted by CEG, the ACCC sought further advice from the RBA and Australian Treasury. In particular, the ACCC asked the RBA and Australian Treasury whether they still

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512 CEG, *Internal consistency of the risk free rate and MRP in the CAPM*, March 2012.
513 ACCC, *Letter to RBA*, 28 June 2007; ACCC, *Letter to Australian Treasury*, 28 June 2007.
514 Specifically, the AER published this advice in 2007 with its draft decision on SP AusNet's transmission determination.
515 RBA, *Letter to ACCC*, 9 August 2007.
516 Australian Treasury, *The Treasury bond yield as proxy for the CAPM risk free rate, Letter to ACCC*, 7 August 2007.

held the views conveyed to the ACCC in 2007 on the CGS market. The ACCC also asked the RBA, Australian Treasury and AOFM whether they had views on CEG's submissions.[517]

Overall, RBA Assistant Governor Guy Debelle advised that:

> I therefore remain of the view that CGS yields are the most appropriate measure of a risk free rate in Australia.[518]

Overall, the Australian Treasury and AOFM advised that:

> The nominal CGS market is liquid and continues to display the attributes of a well-functioning market. A number of measures point to this such as turnover, bid-offer spread and repo (repurchase) margins.[519]

The RBA agreed there had been a widening in the spreads between CGS and other Australian dollar-denominated debt securities. However, the RBA advised that:

> This widening indeed confirms the market's assessment of the risk free nature of CGS and reflects a general increase in risk premia on other assets.[520]

The Australian Treasury and AOFM advised that demand from international investors is not placing undue stress on the CGS market. The Australian Treasury and AOFM further advised that, because of the RBA's introduction of its committed liquidity facility, the demand for CGS will not materially increase and therefore is not expected to affect the liquidity of the CGS market.[521]

Finally, the Australian Treasury and AOFM advised that an expert panel commissioned by the Australian Government advised that the CGS market should be maintained at around 12 to 14 per cent of GDP to maintain a liquid and efficient bond market. The Australian Treasury and AOFM noted that the projected amount of CGS on issue over the forward estimates will, in fact, be marginally higher than this level.[522]

The AER considers the advice provided by the RBA, Australian Treasury, and AOFM supports its decision to maintain estimating the risk free rate with reference to CGS yields. Further, the decrease in yields observed over recent months is consistent with the operation of a well functioning risk free rate proxy. CEG's submissions are not supported by the advice of the RBA, Treasury and AOFM.

B.2 Market risk premium

In attachment 2, the AER presented its considerations on why an MRP of 6 per cent is commensurate with prevailing conditions in the market for funds. The AER also noted that some matters would be addressed, or addressed in more detail, in appendix B.

In this appendix, the AER considers the following matters:

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517 ACCC, *The Commonwealth Government Securities Market, Letter to RBA*, 27 June 2012; ACCC, *The Commonwealth Government Securities Market, Letter to Australian Treasury*, 26 June 2012; ACCC, *The Commonwealth Government Securities Market, Letter to AOFM*, 27 June 2012.

518 RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012, p.1.

519 Australian Treasury and AOFM, *The Commonwealth Government Securities Market, Letter to ACCC*, 18 July 2012, p.2.

520 RBA, *The Commonwealth Government Securities Market, Letter to ACCC*, 16 July 2012, p.1. In section 2.3.7 of attachment 2, the AER considers the RBA's comments in relation to the market risk premium.

521 Australian Treasury and AOFM, *The Commonwealth Government Securities Market, Letter to ACCC*, 18 July 2012, p.2.

522 Australian Treasury and AOFM, *The Commonwealth Government Securities Market, Letter to ACCC*, 18 July 2012, p.3.

- further analysis on the use of arithmetic and geometric averages in the estimation of historical excess returns
- survey evidence:
  - assessment of survey evidence against the criteria suggested by the Tribunal in the Envestra matter
  - explanation of the concept of 'triangulation' and its use in refining survey evidence
- further analysis on DGM estimates
- further analysis on and updating of SFG's methodology using certain financial market indicators (implied volatility, credit spreads, dividend yields)
- assessment of the approaches taken by UK and US regulators.

B.2.1 Historical excess returns

Arithmetic and geometric averages of historical excess returns

Historical excess market returns are highly sensitive to the method of averaging returns over multiple periods. For example, Handley found that, relative to bonds, the historical excess market return for the period 1958-2011 was 3.5 per cent using a geometric average or 6.1 per cent using an arithmetic average.[523]

If returns vary over time, a geometric average will always be less than an arithmetic average—the greater the volatility in returns is the greater the difference between an arithmetic average and a geometric average.[524] With the level of volatility present in historical stock market returns, a difference of around 200 basis points (2 per cent) is common. Difference between an arithmetic average and a geometric average is explained with a simple numeric example in the Box B.1 below.

Box B.1 An explanation of the difference between arithmetic averages and geometric averages

Arithmetic averages are more appropriate when observations are considered independent in a statistical sense. In contrast, geometric averages are more appropriate when observations are related to each other over time (for example, if yearly excess returns are the relevant observations, returns can be expected to accumulate over time). As long as returns vary over time a geometric average will always be less than an arithmetic average. The greater the volatility in returns, the greater the difference between arithmetic and geometric averages.

The difference between arithmetic and geometric averages becomes apparent through a simple example. Suppose an index starts at 100, falls to 80 (a loss of 20 per cent) by the end of Year 1 and then increases again to 100 (a gain of 25 per cent) by the end of Year 2.

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523 Handley, *Historical equity risk premium to 2011*, April 2012, p. 6. Estimates are based on an assumed value of imputation credits of 0.35.

524 For example, if an index starts at 100, falls to 80 and then increases again to 100, the arithmetic average return is 2.5 per cent (the average of the initial 20 per cent fall and subsequent 25 per cent rise) and the geometric average return is zero (because the value of the index at the end of the second period is the same as at the beginning of the first period).

The arithmetic average return simply takes the average of the rates of return over the life of the investment. In this example, the arithmetic average rate of return = (rate of return in year 1+ rate of return in year 2) / total years of investment = (-20% + 25%) /2 = 2.5%.

On the other hand, a geometric average rate of return measures the change between the initial and the final value of the investment over the life of the investment. In this example, the geometric average rate of return = (final value of the investment / initial investment) ^ (1/total years of investment) - 1 = (100 / 100) ^ (1/2) – 1 = 0%.

Note if 0 per cent annual return is applied to the index for two years, by the end of Year 2, the index is at 100. This zero return is consistent with the outcome that the index has not changed after two years. It is clear that over a two year investment horizon, the arithmetic average would overstate the return as the index value has not changed after two years.

However, if the investment horizon was one year, the arithmetic return would be the correct estimate. To form an expectation about one year in the future based on historical evidence one would look at what is possible over a one year horizon, which in this example is assume to be either a loss of 20 per cent or a gain of 25 per cent. Assuming these outcomes were of equal possibility, the expected return would be 2.5 per cent. In this case, the geometric average would be an underestimate of the expected forward looking return.

Since the WACC review, the AER has developed a deeper understanding of the issue of averaging historical excess returns over multiple periods. The AER considers the arithmetic average of one year historical excess returns will overstate the arithmetic average of 10 year historical excess returns. The AER held this position in the Envestra SA decision (and subsequent decisions),[525] and consequently had regard to both arithmetic and geometric averages in considering the appropriate value for the MRP.

In July 2011, among other matters, Envestra sought review by the Tribunal of the AER's reliance on geometric averages in *Application by Envestra Ltd [2012] ACompT3* (the 'Envestra matter'). In that matter, the AER considered:

- the arithmetic average of 10 year historical excess returns would likely be an unbiased estimator of a forward looking 10 year return (the appropriate benchmark)
- however, historical excess returns are conventionally estimated as the arithmetic or geometric average of one year returns. This convention was adopted in the historical excess return evidence available to the AER. Accordingly, the AER interpreted this (one year return) data based on the strengths and weaknesses of how closely this reflected the relevant benchmark (being a 10 year rate, expressed in annual terms)
- mathematically, if there is variability in the one year historical excess returns, the arithmetic average of one year historical excess returns will overstate the arithmetic average of 10 year historical excess returns. This is because the process of averaging one year returns does not take into account the cumulative effect of returns over a 10 year time horizon

[525] AER, *Final decision, Envestra access arrangement SA*, June 2011, pp. 50, 190–191; AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 45, 178–179; and AER, *Final decision: Aurora distribution determination*, April 2012, pp. 144–146.

- also mathematically, if there is variability in the one year historical excess returns, the geometric average of one year historical excess returns will understate the arithmetic average of 10 year historical excess returns

- the AER concluded that the arithmetic average of the data it considered was an overestimate of the relevant benchmark and the best estimate of historical excess returns over a 10 year period was likely to be somewhere between the geometric and arithmetic average of annual excess returns.[526]

The Tribunal stated that while it did not have to decide this matter, that some comments should be made. The Tribunal appeared to agree with the AER as it commented that:

> It may be accepted that an arithmetic mean of historical excess returns is an unbiased estimate of expected future one year returns. It is not, however, an unbiased estimate of expected future returns over longer time horizons. A geometric mean of historical annual returns does not provide an unbiased estimate of expected returns over longer time horizons, either.[527]

APTPPL submitted a report prepared by SFG in its access arrangement proposal. In this report, SFG submitted that it was wrong to place any reliance on geometric averages and that to the extent that reliance is (incorrectly) placed on geometric averages, the resulting estimate of the MRP will be downwards biased. In support of this position SFG presented a Harvard Business School case note.[528]

The AER sought advice from Professor McKenzie and Associate Professor Partington on the SFG report and Harvard Business School case note. In their February 2012 supplementary MRP report, released with the draft decision, McKenzie and Partington explained that the Harvard case study, by construction, 'assumes away the source of bias in arithmetic averages'.[529] The AER does not consider it is appropriate to assume that there is no uncertainty about the mean of the distribution when analysing historical excess returns in practice. Accordingly, the AER did not find the evidence presented by SFG persuasive.

SFG also submitted that the MRP in the CAPM is an expected return and consequently the arithmetic average, not the geometric average, 'must' be used.[530] The Tribunal has previously dismissed this argument when it was presented by Envestra:

> Envestra's submission that, because the CAPM model uses expected returns, only the arithmetic mean may be used cannot be accepted once it is understood that the arithmetic mean of annual historic returns is *not* an unbiased estimate of expected ten-year returns.[531]

The AER's view is supported by McKenzie and Partington in their February 2012 MRP report. After a review of the academic literature on arithmetic and geometric averages, they concluded:

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526 Corrs Chambers Westgarth, *Appendix B – market risk premium, the Australian Energy Regulator's submissions*, 11 November 2011, pp. 17-18.

527 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT3*, 11 January 2012, paragraph 157.

528 SFG, *Market risk premium, Report for APT Petroleum Pipelines Ltd*, 11 October 2011, p. 16 (SFG, *MRP for APTPPL*, October 2011).

529 In the Harvard case study, it assumes the probability of distribution is known. Since there is no uncertainty about the arithmetic mean of the return, the probably of measuring the MRP as discussed in the MRP section largely goes away. See further discussion at: McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 5-6.

530 SFG, *MRP for APTPPL*, October 2011, p. 18.

531 ACT, Application by Envestra Ltd (No 2) [2012] ACompT3, 11 January 2012, paragraph 157.

> The evidence solidly supports the AER's position that over the ten year regulatory period the unbiased MRP lies somewhere between the arithmetic average and the geometric average of annual returns.[532]

In the draft decision, the AER also considered a recent NERA report, which raised an argument against using geometric averages[533]. NERA argued that the WACC is used to determine regulated revenue using the building block equation; this equation deals with one year returns. The AER noted that the building block model is a tool to achieve an outcome whereby the present value of expected revenue equals the present value of expected expenditure over the life of the regulated assets. From this perspective, the AER considers an appropriate discount rate requires the evaluation of an expected multi-period cost of equity.[534]

AER notes the new advice from Associate Professor Lally that there is no compounding effect in regulatory situations. In absence of a compounding effect, the arithmetic mean is preferred to geometric mean if annual returns are independent and drawn from the same distribution.[535]

On a further matter, the Tribunal in the Envestra matter also queried whether there was a method to produce an unbiased estimate. The Tribunal stated that it could not form a conclusion on that issue based on the material before it.

The AER sought McKenzie and Partington's advice on whether such a method was available. After analysing a number of alternative proposals in the literature, McKenzie and Partington concluded in their February 2012 MRP report that there is no indisputable single best estimator for long run excess returns. Given the current state of knowledge, McKenzie and Partington recommended the use of both arithmetic averages and geometric averages, tempered by an understanding of their inherent biases.[536] In other words, McKenzie and Partington recommended the AER continue with its current approach.

The AER notes there are different views amongst the experts. The AER considers it is important to assess all the available materials and apply its judgment to determine a reasonable approach. In view of the conflicting evidence, the AER considers it should review both arithmetic and geometric averages when considering the historical estimates of the MRP. The AER is aware that there are potential deficiencies with both averages and therefore the AER does not exclusively rely on one or the other. In section 2.3.2, the AER had regard to both arithmetic and geometric averages of historical excess returns tempered by an understanding of the upwards bias and downwards bias associated with those approaches, respectively.

B.2.2 Survey evidence

Addressing the Australian Competition Tribunal's comments on the use of survey evidence

The AER considers that survey results are relevant as they reflect the forward looking MRP applied in practice. The final decision for Envestra was reviewed and the issue regarding the use of survey

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532 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 5-7.
533 NERA, *Market risk premium*, 20 February 2012.
534 The AER's consideration was discussed in detail in in AER, *Draft decision*, April 2012, pp. 295-296.
535 Lally, *Cost of equity and the MRP,* 25 July 2012, pp. 31-32.
536 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 7–9.

evidence to inform the value of MRP was brought before the Tribunal.[537] The Tribunal stated that while it did not have to decide this matter, it made a few comments:

> Surveys must be treated with great caution when being used in this context. Consideration must be given at least to the types of questions asked, the wording of those questions, the sample of respondents, the number of respondents, the number of non-respondents and the timing of the survey. Problems in any of these can lead to the survey results being largely valueless or potentially inaccurate.
>
> When presented with survey evidence that contains a high number of non-respondents as well as a small number of respondents in the desired categories of expertise, it is dangerous for the AER to place any determinative weight on the results.

In its February 2012 report, NERA also raised similar questions over the use of survey evidence. Specifically, NERA stated that:

- the surveys that the AER cites typically do not explain how those surveyed were chosen
- a majority of those surveyed in the surveys the AER cites did not respond
- it is unclear what incentives were provided to individuals contacted by the surveys that the AER cites to ensure that respondents would provide accurate responses
- it is unclear whether respondents are supplying estimates of the MRP that use continuously compounded or not continuously compounded returns
- it is unclear what risk-free rate respondents use, and
- is it unclear how relevant some of the surveys that the AER cites are because of changes in market conditions since the time at which the surveys were conducted.[538]

In light of the Tribunal's comments, the AER engaged McKenzie and Partington to apply a set of criteria that are consistent with those highlighted by the Tribunal to the surveys considered in this final determination. The main findings of the McKenzie and Partington assessment and the AER's own review are set out below. These findings similarly apply to much of the concerns raised by NERA.

Timing of the survey

The AER considers that the timing of the surveys is reasonably clear. They ranged from periods from 2000 to the latest survey which was conducted in February 2011. Comparison of survey results over different time periods is likely to provide some information on how market practitioners' perception of the MRP change over time. By considering survey results for the past 10 years, the AER notes that market participants have not changed their view on the MRP. While the latest survey considered by the AER is from February 2011, the consistency in survey responses over time suggests the earlier surveys can still be reasonably relied upon.

Sample of respondents

Surveys considered by the AER were answered by financial managers, expert valuers, actuaries and finance academics. These professionals apply the MRP in practice. For this reason, the AER

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537 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 165-166.

538 NERA, *The market risk premium*, 20 February 2012, p.31.

considers that the target populations selected by the surveys are in a position to make informed judgements about the MRP, this view is also supported by McKenzie and Partington in their February 2012 MRP report.[539]

Wording of survey questionnaires

The quality of the wording of the questionnaires is important to avoid bias and promote the accuracy of survey results. The AER agree with McKenzie and Partington's view that there is a subjective element in judging whether the given wording in a survey is adequate and that it often relies on the quality of the authors. [540]

The AER also agrees with McKenzie and Partington that it can be expected that confidence can be enhanced when the work is published in a refereed academic journal, or when the survey is repeated. In the former case, the work has been subject to peer review. In the latter case, a stable set of questions allows comparisons of response through time. With repeated surveys, the observed changes through time are less susceptible to issues in the wording of the questions. Furthermore, in the event of significant problems with wording and interpretation of questions by respondents this may be detected and corrected over time.[541]

The AER notes that most of the surveys considered here are published in refereed journals and/or repeated through time.[542] Therefore, on balance, the AER is reasonably satisfied with the adequacy of the wording in the survey questionnaires.

Adjustment for imputation credits

The AER noted some surveys implicitly acknowledge imputation credits:

- Truong, Partington and Peat (2008) found that 15 per cent of responses stated that their MRP was adjusted for the value of imputation credits. And that of the remaining 85 per cent of responses that did not adjust for imputation credits. The main reasons given were:
  - it was too difficult;
  - should have a very small impact; or
  - was unnecessary as the market already adjusts stock prices for the value of imputation credits and so will already be reflected in the cost of capital estimate.
- In Asher (2001) survey, 27 out of 49 respondents indicated that they have made adjustments to their MRP estimates for imputation credits.

The AER also notes other surveys suggest that imputation credits are not typically allowed for. It is also unclear as to the extent of adjustments made to the MRP estimate in surveys which discuss imputation credits. The AER acknowledges this uncertainty on imputation credits adjustment is a limitation of survey evidence, and has taken this into account in the interpretation survey evidence.

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539 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 17.

540 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 17-18.

541 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 17–18.

542 Specifically, Truong, Partington and Peat (2008) and Asher (2011) were published in academic journals. The Fernandez surveys are repeated over time. KPMG (2005), Capital Research (2006) and Bishop (2009) are neither of these.

Survey response rate and non-response bias

The AER considers a sufficient level of response rate is important for survey evidence, but it is a subjective judgement on what constitutes a sufficiently large sample. McKenzie and Partington suggested in their February 2012 MRP report that a sample size of more than 30 is sufficiently large statistically and therefore a representative sample of 30 respondents is expected to be adequate.[543] The AER notes that most surveys considered in this decision received around 30 responses.

The AER recognises that low response rates are a common problem with the survey evidence. However, the AER considers while the number of responses in a survey is important, the main concern is whether respondents are a representative sample of the target population. That is whether there might be a reason for non-respondents to systematically favour a different MRP to the respondents of the survey. This view is supported by McKenzie and Partington.[544]

A direct assessment of representativeness is difficult as the responses of the non-respondents are unknown. McKenzie and Partington noted the amount of effort exerted by Graham and Harvey (2010) to measure this. Graham and Harvey concluded the response rate is not a significant concern for the following reasons:

- the response rate is within the range that is documented in many other survey studies.
- Graham and Harvey (2001) conducted a standard test for non-response biases and found no evidence of bias
- Brav, Graham, Harvey and Michaely (2005) conducted a captured sample survey at a national conference in addition to an Internet survey. The captured survey responses (to which over two-thirds participated) are qualitatively identical to those for the Internet survey (to which 8% responded)
- Brav, Graham, Harvey and Michaely (2005) contrasted survey responses to archival data from Compustat and found archival evidence is consistent with the responses from the survey sample
- Campello, Graham, and Harvey (2010) showed that the December 2008 response sample is fairly representative of the firms included in the commonly used Compustat database.

The AER recognises that the surveys considered in this decision do not specifically address the non-response bias. However, the AER considers the reasons found by Graham and Harvey (2010) are likely to apply to the other survey evidence. Therefore, the AER is reasonably satisfied that the survey evidence should not be excluded from consideration because of low response rates or potential non-response bias.

Triangulation

McKenzie and Partington placed significant weight to the survey evidence as the triangulation across surveys enhanced their confidence in the results. The idea behind the triangulation is that a specific survey might be subject to a particular type of bias (although there is no compelling demonstration of

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543 McKenzie and Partington, *Supplementary report on the MRP,* February 2012, pp. 17–18.

544 McKenzie and Partington, *Supplementary report on the MRP,* February 2012, pp. 18–19.

it). However, it is much less likely that this would be a consistent problem across surveys with diverse methods and different target populations.

McKenzie and Partington illustrated triangulation in survey evidence considered by the AER and found that the Australian surveys conducted using different methods and different target populations at different times support an MRP estimate of 6 per cent:

> ...consider an illustration of triangulation in action. The KPMG survey looks at the market risk premiums used in expert reports. This might be criticised on the basis that the same expert might have produced many reports and thus that one expert's views are overweighted. If that expert's view is divergent from other experts, then the result will be a biased estimate of the MRP for the expert sample. The effect is analogous to non-response bias in a traditional questionnaire survey. Bishop (2009) addresses this problem by surveying experts' reports and collecting the MRP by expert, so each expert's opinion is equally weighted. Bishop also uses a different, although probably overlapping, sample of reports to KPMG. Both studies give an MRP of 6%, thus confidence is enhanced that the MRP used by experts is 6%.[545]

The AER notes the triangulation of survey results is a relevant consideration. By examining a wide range of survey evidence, which uses different methods and targets different respondents, the reliability of survey results is increased.

Conclusion on survey evidence

Survey evidence reflects the forward looking MRP applied in practice. The AER notes that survey evidence is subject to certain limitations, such as the uncertainty on imputation credit adjustment. However, based on its own review and the advice from McKenzie and Partington, the AER considers that survey based estimates of the MRP are relevant to inform the forward looking MRP. In this decision, the AER considered a range of survey evidence conducted in different time periods and targeted different respondents. The evidence supports the view that a forward looking MRP of 6 per cent is the best estimate in the current circumstances.

B.2.3 DGM estimates

The AER has considered submissions advocating the use of DGM inferred estimates of the MRP. Aside from the CEG report, which was primarily relied upon by APTPPL to support its revised 8.5 MRP proposal, the AER has also considered reports submitted by Capital Research and NERA in previous regulatory decisions.

CEG, Capital Research, NERA and Associate Professor Lally all recommended the use of DGM analysis in estimating a forwarding looking MRP. The DGM estimates derived by CEG, Capital Research and NERA support an MRP estimate above 6 per cent. The AER considers that DGM based analysis of the MRP can provide some information on the expected MRP. However, due to the sensitivity of results to input assumptions in the model, limited weight should be attached to the DGM analysis. This view is also consistent with McKenzie and Partington's recommendation.[546]

In the February 2012 report, Capital Research developed its own DGM analysis and estimated an implied MRP in the range of 6.6 to 7.5 per cent. In estimating this range, CR assumed a compound average growth rate of 7 per cent based on analysts' forecast, and a theta value of between 0

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[545] McKenzie and Partington, *Supplementary report on the MRP,* February 2012, p. 20.
[546] McKenzie and Partington, *Equity market risk premium*, December 2011, p. 27.

and 0.5.[547] The AER considers the DGM analysis is very sensitive to the assumptions made. This view is supported by Capital Research's own analysis - an increase of 0.5 in the theta assumption translates to a 0.8 to 1.2 per cent increase in the implied MRP.[548] The DGM assumes growth at a constant rate in perpetuity. The AER considers that analysts' forecast is often based on short to medium terms and therefore using analysts' forecast growth rate is likely to result in an upward bias in the DGM implied MRP estimate. Mckenzie and Partington further noted in their December 2011 MRP report:

> Since analysts only cover a subset of firms, whether we get a representative estimate for the market is an open question. Another problem is that analyst's forecasts are known to be biased (generally upwards) and subject to gaming (see Scherbina, 2004, and Easton and Sommers, 2006).[549]

Similarly, the AER notes the 8.5 per cent DGM MRP estimate derived by CEG is very sensitive to its assumptions. This is illustrated in tables B.1–B.3 below.

Table B.1 MRP estimates with different growth assumptions

Dividend per share growth	Dividend yield	Risk free rate	MRP estimate
6.60%	5.68%	3.77%	8.52%
6.00%	5.68%	3.77%	7.91%
3.50%	5.68%	3.77%	5.41%
0.00%	5.68%	3.77%	1.91%

Source: AER analysis

Table B.2 MRP estimates with different dividend yield assumptions

Dividend per share growth	Dividend yield	Risk free rate	MRP estimate
6.60%	5.68%	3.77%	8.52%
6.60%	5.00%	3.77%	7.83%
6.60%	3.00%	3.77%	5.83%
6.60%	1.00%	3.77%	3.83%

Source: AER analysis

[547] Capital Research, *Forward estimate of the market risk premium: Update, A response to the draft distribution determination by the AER for Aurora Energy Pty Ltd*, February 2012, pp. 19-23 (Capital Research, *Updated Forward estimate of the MRP*, February 2012).

[548] Capital Research, *Updated Forward estimate of the MRP*, February 2012, Table 2, p. 21.

[549] McKenzie and Partington, *Equity market risk premium*, December 2011, p. 26.

Table B.3 MRP estimates with different prevailing risk free rates

Dividend per share growth	Dividend yield	Risk free rate	MRP estimate
6.60%	5.68%	3.77%	8.52%
6.60%	5.68%	3.00%	9.28%
6.60%	5.68%	5.00%	7.28%
6.60%	5.68%	6.00%	6.28%

Source: AER analysis

The AER further notes the AMP method used by CEG was producing an MRP estimate at or below zero per cent back in 1994. The AER does not consider a zero or a negative MRP is realistic at any particular point in time. This view is also supported by Associate Professor Lally:

> ...this assumption underlying Figure 8 can be tested by observing that the model gives rise to an estimated market risk premium of zero in 1994; this outcome is not plausible and therefore suggests that the underlying assumption is not plausible.[550]

The AER is not aware of any evidence suggesting the estimates derived from the current CEG DGM analysis are more reliable compared to estimates derived back in 1994.

B.2.4 Other financial market indicators

In the initial access arrangement proposal, APTPPL proposed a conditional MRP approach supported by an SFG report using three financial market indicators—implied volatility, dividend yields and relative debt spreads—as 'conditioning variables' to adjust the MRP estimate around its long run average.[551] The AER did not consider that the SFG conditional MRP approach was a relevant basis to estimate the 10 year forward looking MRP. This is because there was insufficient evidence to establish a quantifiable relationship between the three conditioning variables and the MRP.

Implied volatility

Implied volatility is calculated from observing the price of put or call options over a broad share market index, such as the S&P/ASX 200. Applying a mathematical formula allows the calculation of the level of market volatility expected by market participants over the life of the underlying options.[552] Hence, the term of the implied volatility will accord with the option term—usually three months, but ranging between one year and one month.[553]

The AER considered the use of implied volatility to inform the forward looking MRP in the WACC review and in the draft decision. The underlying principle is that higher implied volatility is indicative of higher risk and consequently a higher MRP. Implied volatilities are typically calculated based on short term (3 month or less) option prices.

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550 Lally, *Cost of equity and the MRP,* July 2012, p. 22.

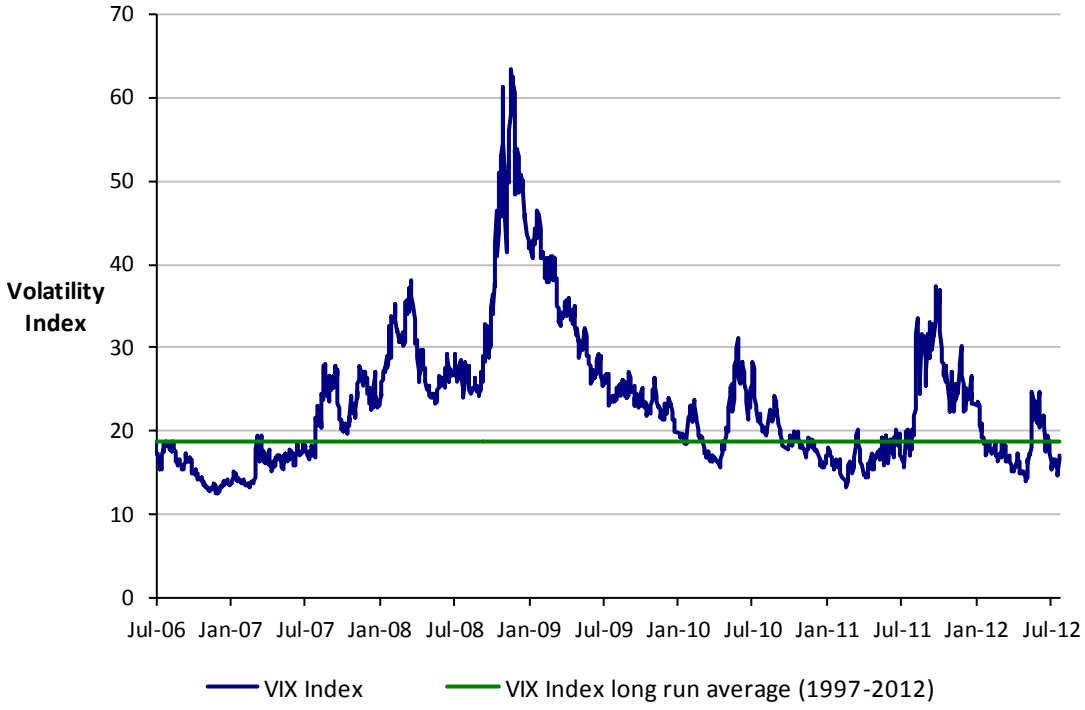
551 SFG, *The market risk premium: An updated assessment and the derivation of conditional and unconditional estimates: Report for the Victorian electricity distribution businesses*, 20 February 2012, pp. 8–13, 26–30 (SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012).

552 The Black-Sholes option pricing model is most often used, but other methods are possible.

553 To clarify, options are sold with different maturities beyond this range, but the implied volatility calculations are found only at these short term horizons.

Recent data for one common measure of implied volatility, based on three month options over the S&P/ASX 200, is shown in figure B.1. This measure has been used by APTPPL's consultant, SFG, in its analysis of this issue.

Figure B.1 Implied volatility (VIX) over time



Source: Citibank VIX implied volatility index (3 month put/call options on S&P/ASX 200), sourced via Bloomberg code CITJAVIX.

It is evident that implied volatility is quite variable and that the level can change substantially in a matter of months. Further, although implied volatility was high during the worst of the GFC, the current level is below the long run average. Using data updated to the 25 July 2012, this measure of implied volatility is at 17.2 per cent, slightly below the long run average of 18.8 per cent (measured from the commencement of this series in 1997).

If this latest point estimate is to be used to inform the forward looking 10 year MRP, as proposed by SFG,[554] it appears to support a value at or slightly below the long term average MRP (that is, 6 per cent).[555]

The AER considers this result should be treated with caution, and does not propose to use it to set the forward looking 10 year MRP. The AER considers that implied volatility cannot be used directly to estimate the MRP, because of:

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554 To clarify, SFG proposed to use implied volatility to inform the estimate of the MRP. In its February 2012 submission prepared for Victorian DNSPs, SFG did not propose to use the latest point estimate of implied volatility (but rather an older point estimate). See SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, p. 9.

555 Briefly, the proposed relationship is that the current value of implied volatility relative to its long term average is indicative of the current value of the market risk premium relative to its long term average.

- Term mismatch—The implied volatility measures are short term (usually less than 3 months), in accordance with the term of the underlying financial derivatives (options). There is no reasonable method to extrapolate to a longer term, and the relevant MRP is over 10 years. Even if (for example) implied volatility indicated that the three month MRP was double its long run average, this still would not indicate that the 10 year MRP had departed from the average.

- Measurement problems—Different implied volatility measures produce different (and sometimes conflicting) results. Further, there is evidence that these measures are systematically biased (upwards).

- Contentious assumptions—Observing the amount of risk (via implied volatility) does not equate to the price of that risk (which is what is relevant to the MRP). This gap is most commonly breached by assuming a constant ratio, for instance that if the current implied volatility is double the long run average, the MRP will also be double its long run average. This assumption is disputed on theoretical and empirical grounds.

The AER's view is shared by McKenzie and Partington who concluded in their February 2012 supplementary MRP report that:[556]

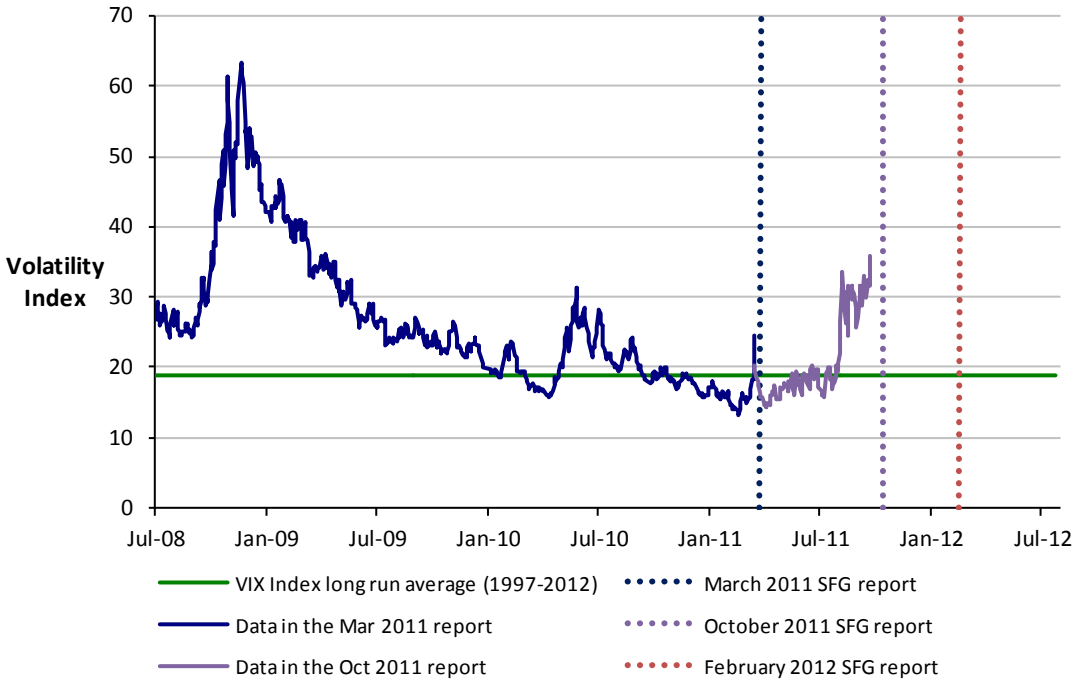
> Further work on this technique (implied volatility) might be warranted, but given the current state of play it could hardly be regarded as a validated method, let alone an accurate and reliable adjustment to the MRP.

While no SFG report was submitted by APTPPL in the revised proposal, the AER notes that SFG has submitted arguments for an elevated MRP based on implied volatility analysis in several recent regulatory processes.[557] In general, SFG updates the data each time to show recent market developments. Figure B.2 shows the dates of three recent reports by SFG, together with the implied volatility data included by SFG in each report.

556 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 26–27.

557 SFG, *Issues affecting the estimation of MRP, Report for Envestra*, 21 March 2011, pp. 9–10 (SFG, *MRP for Envestra*, March 2011); SFG, *MRP for APTPPL*, October 2011, pp. 9-11, 23–25; and SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, pp. 7–9, 28–29.

Figure B.2 Implied volatility data and SFG report dates



Source: SFG, *MRP for Envestra*, March 2011, pp. 9–10; SFG, *MRP for APTPPL*, October 2011, pp. 9-11; SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, pp. 7–9; Underlying data file provided by SFG; AER analysis.

Notes: The March 2011 SFG report includes a sudden uptick ('spike') in implied volatility (to around 24.5) just before the reported data ends (15 March). This spike has been removed by SFG in its subsequent reports, and does not exist in current data downloaded from Bloomberg.

There is necessarily a short practical delay between the observation of data and the completion of a report. The first report, dated March 2011, included data up until 15 March 2011.[558] The second report, dated October 2011, included data up until 23 September 2011. The most recent report, dated 20 February 2012, did not update the implied volatility series, but only repeated the data from the preceding report (ending 23 September 2011).

Hence, the latest report by SFG broke the pattern of updating the implied volatility analysis to include the latest available data. Given the evident variability in this measure, use of data that was five months old would appear to be a concern. SFG has previously stated that the latest available data should always be used to estimate parameters.[559]

The AER notes that while SFG did not update the implied volatility data it did update the two other financial market indicators: dividend yields and relative debt spreads. In both cases, the March 2011 report included data up to February 2011, and the October 2011 report included data updated to September 2011.[560] However, the February 2012 report updated both the dividend yield data and the

[558] This date was inferred from a graph and so may be out by one or two days.

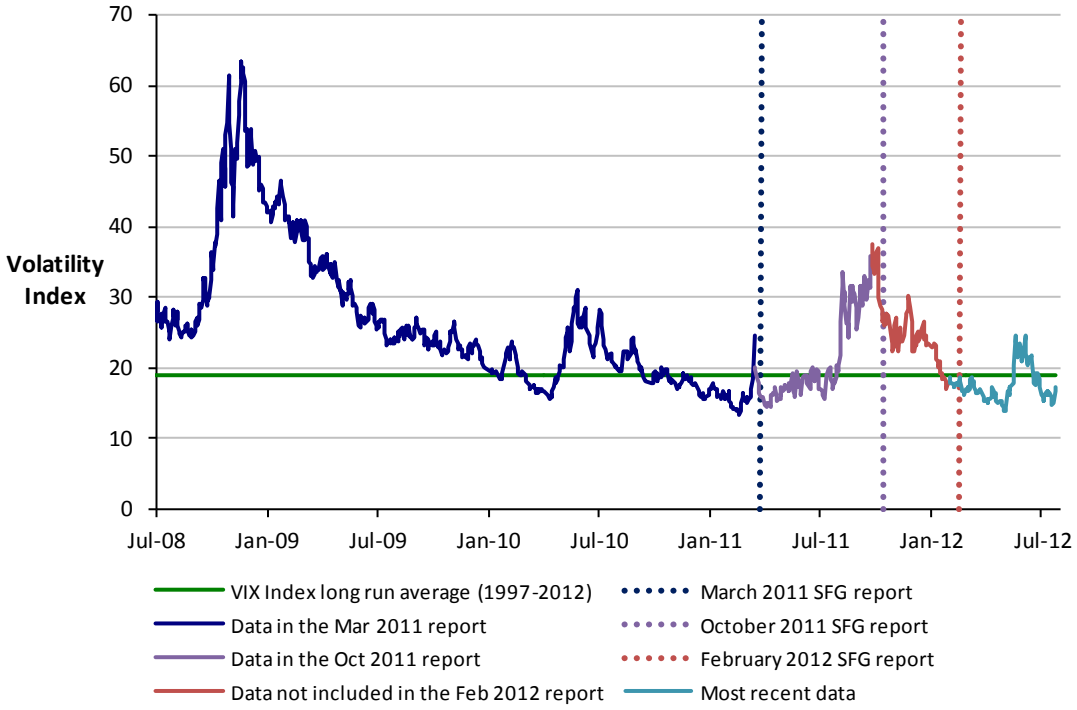
[559] SFG, *The required return on equity commensurate with prevailing conditions in the market for funds, Response to the draft decision, Report prepared for Envestra*, 23 March 2011, p. 3 (see also p. 12).

[560] SFG, *MRP for Envestra*, March 2011, pp. 11–12; and SFG, *MRP for APTPPL*, October 2011, pp. 11–14, 23–25.

relative debt spread data to 31 January 2012.[561] This updated data was presented alongside the out-of-date implied volatility data.[562]

The AER has updated the implied volatility data series in figure B.3. This shows the data (up to 31 January 2012) that was not submitted by SFG in its February 2012 report, as well as more recent data since that time (up to 25 July 2012).

Figure B.3 Implied volatility series showing data omitted by SFG



Source: As per previous figure; Bloomberg; AER analysis.
Notes: As per previous figure, this graph shows an implied volatility spike in mid March 2011 that was later removed by SFG.

The AER considers that this was a significant omission from the February 2012 report. SFG's conditional MRP estimate relied upon three financial market indicators. One of those, implied volatility, was reported by SFG as being very high relative to its long run average (2.17 standard deviations above the mean).[563] In fact, this indicator was slightly below its long run average.

A final point concerns the choice of baseline averaging period. The conditional MRP assessment relies upon the comparison of the current values for each conditioning variable against their 'baseline' value—usually defined as the long run average. Hence, the selection of a particular long run averaging period can have a material impact on the outcome of the analysis. The clear theoretical preference is for an averaging period that matches the entire estimation period for the unconditional MRP underlying the approach. Unfortunately, data limitations mean it is often not possible to have

561 SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, pp. 10–13, 28–29.
562 SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, pp. 28–29.
563 SFG, *Conditional and unconditional MRP for the Vic DNSPs,* February 2012, p. 29.

such an extensive history for these conditioning variables, in which case the longest possible period should be selected.

In the February 2012 report, SFG selected the period post 2000 as its long run averaging period. No justification is provided for starting the average at this point. The available data goes back to 1997, and including the longer period would raise the baseline average. In turn, this would decrease the conditional MRP estimate in all scenarios.

Credit spreads

The AER considered the use of credit spreads to inform the forward looking MRP. The argument behind this is that the difference between an index of the yield to maturity on BBB-rated bonds and a corresponding index of AAA-rated bonds proxies for credit or default risk. During recessions, this debt yield spread widens, commensurate with an increase in risk premiums generally which implies a higher risk premium for equity.[564]

The AER considers that a direct comparison of yield on debt and the MRP is problematic. This is supported by McKenzie and Partington's review and the reasons are as follows[565]

- McKenzie and Partington expect that the widening credit spreads during the GFC were substantially driven by increasing concern about the risk of default and this concern dries up the liquidity in debt markets. Thus, it was a combination of default premiums and liquidity premiums that drove up returns in debt markets

- as a consequence of the GFC it might reasonably be expected that the default risk component of the credit spread increased. Consequently, it is expected that much of the change in debt yields during and consequent to the GFC is due to a changed assessment of default risk

- a key element of the GFC was increasing credit risk, with a widespread perception that default risk had increased sharply. Consequently, the expected cash flow on risky debt declined, which caused the price of the debt to fall. Since the yield is calculated on the promised cash flow relative to the price, the yield on risky debt went up and the credit spread widened. This would have happened even if there was no change in the MRP, or debt betas

- increase in credit spreads due to increased default risk does not automatically require a shift in the MRP. It is important to note that the MRP is an expected return and the yields on debt are a promised return. The promised return is only the same as the expected return for debt where there is no default risk. For all other debt the promised return is higher than the expected return. Because the debt yield and the MRP measure different things, effectively they are measured in different dimensions, they are not constrained to move in a similar fashion and comparisons between them can be misleading.

Dividend yields

Dividend yields refer to the forecast dividends (or other distributions) for all shares in a broad based market index divided by the current price of all shares in that index. The dividend forecasts are generally aggregated by a data provider from reports by different equity analysts, with the forecast

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564 SFG, *MRP for APTPPL*, October 2011, p. 11.

565 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 21–23.

horizon generally one year. Hence, the dividend yield is a simple indicator of the expected return to equity holders through dividends (though with no allowance for capital gains/losses or imputation credits) over the next year. The consideration of dividend yields as a direct MRP indicator should be distinguished from the use of DGMs (though the two are closely related).[566]

SFG stated that higher dividend yields indicate a higher market risk premium. This claim was based on several academic studies that found a statistically significant relationship when using dividend yields to predict equity market returns. [567] The intuitive explanation was that when dividend yields were high, a given set of cash flows was being discounted at a higher rate, indicating a higher MRP. In the February 2012 report, SFG estimated that at 31 January 2012, the dividend yield for the Australian share market was 4.69 per cent. This value was above the long run average dividend yield, supporting an MRP above its long run average (SFG proposed 7 per cent).[568]

The primary reason why the AER does not use the dividend yield approach to inform its MRP estimate is that there is insufficient evidence of a relationship between the two. The AER acknowledges the three reports cited by SFG which did report this finding.[569] However, a broader consideration of the academic literature, as undertaken by McKenzie and Partington, does not indicate that this is a statistically reliable relationship.[570] The AER agrees with the conclusion of McKenzie and Partington on this matter:[571]

> SFG presents the dividend yield as a conditioning variable as though it were established fact. In contrast, in our main report we begin by excluding consideration of predictive models based on dividend yield. This is because in our view, this is still a developing area of research, rather than a well developed practical tool. We are not alone in this view as it is shared by others such as Dimson, Marsh and Staunton (2011), who are leading scholars in the area of the MRP.

The AER considers that the underlying mechanism relating dividend yields and the MRP (as presented by SFG) is not persuasive. SFG appears to overlook a number of other factors that could result in a higher observed dividend yield even where the MRP was unchanged (or lower).[572] The forecast horizon for the dividends is short (generally one year); so a reduction in expected dividends beyond this point will result in a lower price and a higher dividend yield. That is, a change in expected cashflow (not the discount rate or MRP) explains the result. This point is explained by McKenzie and Partington.[573] The dividend yield calculation takes no account of expectations concerning capital gain or loss. Hence, a change to expect relatively more of the total return from dividends instead of capital

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566 More specifically, the DGM includes consideration of changes in dividends beyond the immediate dividend forecast horizon.

567 SFG, *MRP for APTPPL*, October 2011, p. 9.

568 Specifically, SFG stated that the current dividend yield was 1.02 standard deviations above the long run average. The AER does not consider this calculation to be correct, and discusses this later in the decision. SFG, *Conditional and unconditional MRP for Vic DNSPs*, February 2012, p. 29.

569 Fama and French (1988, 1989) and Keim and Stambaugh (1986); see also Cochrane (2011) cited by McKenzie and Partington.

570 For example, papers by Stambaugh (1999); Fisher and Statman (2000); Goyal and Welch (2003); Armitage (2011), Dimson, Marsh and Staunton (2011); Jun, Gallagher and Partington (2011); and Min (2011). Papers cited in McKenzie and Partington, *Equity market risk premium*, December 2011, p. 4; and McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 13–14, 23–25.

571 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 23.

572 Other techniques build on the dividend yield approach in an attempt to address these shortcomings. The DGM projects dividend movements beyond the immediate dividend forecast horizon. The SFG 'market based assessment using dividend yields combines the dividend yield with a forecast for capital gain/loss.

573 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 12–13.

appreciation would also result in a higher dividend yield. This would occur even if the MRP was unchanged.

Finally, as with the other financial market indicators, the assessment of a higher-than-average dividend yield is predicated on an accurate assessment of exactly what the baseline figure should be. SFG calculated its long run average using data from 2000 onwards, but provided no justification for the use of this time period.[574] In this instance, the relevant data series is available back to 1973.[575] Using the longer data series would result in a higher baseline dividend yield. In turn, this would reduce the extent to which the current dividend yield was above the average and so support a lower MRP (relative to that proposed by SFG).

Updated data using SFG methodology

APTPPL submitted a SFG report which used other financial market indicators as the primary support for its initial MRP proposal of 7 per cent. However, the AER notes that a further SFG report was not submitted in the revised proposal. Further, the other financial market indicators were not discussed by APTPPL in support of its increased revised MRP proposal of 8.5 per cent.

In the October 2011 report, SFG estimated that on average, the three financial market indicators discussed above were one standard deviation above their long run values. Hence, the conditional MRP proposed by SFG was one standard deviation (1 per cent) above the mean (6 per cent), for an MRP of 7 per cent.[576]

Across recent reports, the conditioning variables presented by SFG have been relatively high. Table B.4 summarises the SFG results by presenting one key figure for each variable—the standardised difference between the current value and the long run average. 'Standardised' means that the difference is expressed in terms of the standard deviation for that data series. For example, a standardised value of +1.5 means that the current value is above the average value by 1.5 times the standard deviation for that series.

Table B.4 Conditioning variables presented by SFG in recent reports

SFG report date	Implied volatility	Dividend Yield	Relative debt spread
March 2011	+0.80	+0.44	+0.87
October 2011	+2.17	+1.59	+0.77
February 2012	+2.17	+1.02	+1.95

Source: SFG figures provided to the AER, AER analysis

The AER updates the SFG data using a baseline that encompasses the longest available data series. Table B.5 shows the standardised difference between the current value and long run average for the three financial market indicators. However, the AER does not update the relative debt spread figures, because there is no reasonable data available. The table includes the uncorrected relative debt spread figures for comparative purposes.

574 SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, p. 12.
575 That is, the data series used by SFG and provided by them to the AER commences at this point.
576 SFG, *MRP for APTPPL*, October 2011, pp. 24–25.

Table B.5 Conditioning variables after correction

Data period	Corrected implied volatility	Corrected dividend yield	Uncorrected relative debt spread
To 15 March 2011	+0.10	+0.10	+0.87
To 23 September 2011	+2.25	+1.17	+0.77
To 31 January 2012	–0.12	+0.53	+1.95
To 25 July 2012	–0.22	+0.95	NA

Source: SFG figures provided to the AER, Bloomberg, AER analysis
Notes: The dates of the first three rows coincide with the data presented in the three SFG reports. The Datastream data on the relative debt spread (used by SFG) is not available to the AER and so cannot be updated. The Datastream data on dividend yields is not available to the AER, but an alternative series from Bloomberg has been used (correlation of 0.97).

As is evident in table B.5, based on recent data, there is no consistent pattern across these three indicators. Implied volatility is slightly below its long run average. Dividend yield is moderately above its long run average. It is difficult to speculate on the value of an updated relative debt spread (the most recent SFG figure is now 6 months out of date).[577]

The AER does not consider that SFG's conditional MRP approach based on three financial market indicators is a relevant basis to estimate a forward looking 10 year MRP. However, even if weight were to be given to this approach, it would support an MRP of 6 per cent.

B.2.5 Approach of the UK and the US regulators

In the revised proposal APTPPL submitted that DGM is predominately used in US regulatory decision.[578] CEG suggested that regulatory precedent outside Australia should be considered when making the decision. Those regulators generally support making adjustment to the cost of equity when risk free rates are unusually low. [579]

The AER acknowledges that the UK regulators make an upward adjustment in the risk free rate when the prevailing risk free rate is low, while the US regulators tend to use the DGM to estimate the cost of equity.

The AER considers the decisions made by the UK and the US regulators are not comparable to those of the AER's as these decisions are made under a different legal framework. The AER considers it is inappropriate for it to adopt a constant cost of equity as the NGR requires the AER to determine the best estimate possible in the circumstance and commensurate with prevailing conditions in the market for funds. The AER also places limited emphasis on DGM estimates to determine the MRP for reasons set out in sections 2.3.2 and appendix B.2.3.

B.3 Equity beta

This section deals with the following issues related to equity beta:

577 To prevent misinterpretation, the AER does not consider that this figure is reliable as discussed later in this appendix.
578 APTPPL, *RBP AA revised proposal submission*, May 2012, p. 42.
579 CEG, *Internal consistency of risk free rate and MRP in the CAPM,* March 2012, pp. 33–40.

- empirical analysis of overseas energy networks
- reasoning in the APTPPL revised proposal
- the March 2011 CEG report
- uncontested content from the draft decision.

B.3.1 Empirical analysis of overseas energy networks

This section provides details on equity beta estimates from overseas data.

As set out earlier in the decision, the AER considers that overseas electricity and gas networks can also be used as a cross check on the equity beta for Australian energy networks. It is not possible to use this as the primary determinant of the equity beta, because it is not possible to correctly adjust for the differing environment between countries.[580]

The AER considers the following analyses of equity beta estimates that use data for overseas energy networks (generally from the US or UK), using data prior to the GFC:[581]

- by Associate Professor Henry for the AER's WACC review. This analysis implements a number of different econometric techniques, including the use of individual and portfolio estimates, weekly and monthly measurement intervals, OLS and LAD regression forms, considering point estimates and confidence intervals. The most relevant results relate to the time period 1990 to 2008 (but excluding the tech boom) with average equity beta estimates between 0.47 to 0.71[582]
- by the Allen Consulting Group (ACG) for the Essential Services Commission (ESC) of Victoria. The most relevant results are for the period 1990 to 2007 (but excluding the tech boom), with average equity beta estimates from 0.49 to 0.60.[583] In the relevant regulatory decision, the ESC evaluated the available evidence and considered that the US equity beta estimate was in the range 0.6 to 0.8[584]
- by the ACG for various industry groups. The econometric techniques closely followed the report above, but extended the data period to end in 2008 (one year later). The average individual equity beta estimates were 0.65 to 0.73, and the average portfolio estimates were from 0.54 to 0.68[585]
- by PricewaterhouseCoopers for the UK regulator, the Office of Gas and Electricity Markets (Ofgem). The analysis presents five years of monthly data for a number of countries, with an

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580 AER, *Final Decision: WACC Review*, 1 May 2009, pp. 260–264; see also AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 48, 176–184.

581 This section summarises some material from AER, *Draft decision,* April 2012, pp. 333–336. Source documents are separately footnoted.

582 Source documents are O. Henry, *Estimating β*, 23 April 2009, pp. 40–46; and AER, *Final decision: WACC review*, May 2009, p. 330.

583 Source document is ACG, *Empirical evidence on proxy beta values for regulated gas distribution activities, Report to the Essential Services Commission of Victoria*, June 2007, p. 69.

584 Source document is Essential Services Commission, *Final decision: Gas access arrangement review 2008–2012*, 7 March 2008, p. 476.

585 Source documents are ACG, *Beta for regulated electricity transmission and distribution: Report to Energy Networks Association, Grid Australia and APIA*, September 2008, p. 48 and AER, *Final decision: WACC review*, May 2009, pp. 329–331.

average of individual equity beta estimates of 0.55 (ending in December 2007) or 0.78 (ending in September 2008)[586]

- by Professor Damodaran of New York University. The relevant results are generated using a five year data window ending in 2007 or 2008, with an average of individual equity beta estimates of 0.85 to 0.86[587]

- by CEG for Envestra Ltd in March 2011.[588] This report uses a five year data window and end dates between December 2007 and September 2008. A number of different sample sets are reported, which contain between 10 and 75 firms (chosen from an overall subset of 77 firms). The averages of individual equity beta estimates across these different subsets are between 0.95 and 1.12.[589]

The AER also considers analysis that includes data periods that end after the GFC:[590]

- by CEG for Envestra Limited in September 2010. The relevant results use five years of data for US electricity firms ending in June 2010, and the average of the individual equity beta estimates is 0.99[591]

- by Professor Damodaran of New York University. This analysis is updated by Damodaran on a yearly basis, using a five year window each time. From January 2010 to January 2012, the average of individual equity beta estimates ranges from 0.71 to 0.74[592]

- by NERA for the QCA. This analysis separately reports US and UK estimates using a ten year estimation window ending in March 2011. The average portfolio equity beta estimate for UK firms ranges from 0.87 to 1.09, and for US firms from 0.70 to 0.88.[593]

Across all these studies, the range of equity beta estimates extends from 0.4 to 1.1. However, the more relevant and reliable results occur in the lower half of this range.[594] These overseas equity betas should not be directly equated with the equity beta for the (Australian) benchmark firm. This is because there is no consensus on the direction or magnitude of an adjustment that would convert

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586 Source document is PricewaterhouseCoopers, *Final report: Office of the Gas and Electricity Markets, Advice on the cost of capital analysis for DPCR5*, 1 December 2009, pp. 37–45 (figures 13, 16–19). Note that these tables present asset betas; the conversion to equity betas is shown in AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 170–171.

587 Figures here refer to Damodaran's data sets from January 2007 and 2008. This data is available at http://pages.stern.nyu.edu/~adomodar/ and then clicking on the link 'Updated Data' at top left, accessed 19 March 2012.

588 This report was submitted by APTPPL with its revised proposal, and is discussed in detail in the appendix.

589 CEG, *WACC Estimation: A report for Envestra*, March 2011, p. 26.

590 This time period introduces an additional complication, which is that market conditions during the GFC may have little relevance to the determination of the benchmark equity beta. This is of particular concern where the international impact of the GFC differs from the Australian experience. In keeping with this reduced relevance, the AER places less weight on these results. See AER, *Draft decision,* April 2012, pp. 334–335.

591 Source document is CEG, *Cost of capital for Envestra*, September 2010, pp. 49–50.

592 Figures here refer to Damodaran's data sets from January 2007 and 2008. This data is available at http://pages.stern.nyu.edu/~adomodar/ and then clicking on the link 'Updated Data' at top left, accessed 19 March 2012

593 NERA, *Cost of capital for water infrastructure*, March 2011, pp. 36–37, 60.

594 Specifically, the more relevant results are those that use a longer data period (but ending prior to the GFC), and a larger geographic sample (extending across several countries). The more reliable results are those which implement appropriate econometric techniques after extensive consultation and review (such as the WACC Review).

overseas equity betas to the Australian environment.[595] Consequently, the AER considers that these overseas estimates are not incompatible with an Australian equity beta estimate beta estimate range of 0.4 to 0.7.

B.3.2 Reasoning in the APTPPL revised proposal

In its revised proposal, APTPPL maintained its original proposal that the equity beta should be 1.0, notwithstanding the AER's draft determination of 0.8. To support this position, APTPPL stated:[596]

> In adopting an equity beta of 0.8, the AER has disregarded substantial evidence that the benchmark equity [beta] is best approximated by at least 1.0[76]
>
> [76] CEG, WACC Estimation: A report for Envestra, March 2011.

No other statement or reasoning in support of this position was provided.

The AER has a number of concerns with this statement by APTPPL:[597]

- APTPPL has not previously put this material to the AER
- APTPPL has not sufficiently identified the relevant material
- APTPPL has not integrated this material with its previous position.

The statement that the AER had disregarded the March 2011 CEG report presupposes that this material was before the AER when it made its draft decision. However, this report had not previously been submitted to the AER as part of the RBP regulatory process. Under the propose-respond regulatory framework, APTPPL is responsible for providing the material it considers necessary to support its proposal. Hence, the grounds for this complaint are not made out.

The Tribunal in *Application by Jemena Gas Networks (NSW) Ltd (No. 3)* stated 'Parties are required to identify with some precision what part or parts of the submitted material they regard as relevant'.[598] APTPPL does not appear to have done so. Instead it has asked the AER to deduce its case on the basis of a footnote reference to a consultant's report. Nevertheless, the AER reviews the report referenced by APTPPL.[599]

Further, APTPPL has not explained how the new consultant's report (by CEG) is to be reconciled with the consultant's report submitted with its original proposal (by SFG).[600] The two reports employ different approaches and the results derived from each approach are contradictory in some areas. APTPPL has not indicated how the AER should take into account this material.[601] The AER

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595 For example, the ESC states that (for a benchmark energy network) US equity betas are above those in Australia, Henry and ACG report that they are roughly equivalent, and CEG considers that US equity betas are below Australian equity betas. See AER, *Draft decision,* April 2012, pp. 331–336.

596 APTPPL, *Revised access arrangement submission,* May 2012, p. 43.

597 For clarity, these concerns are separate from evaluation of the content of the March 2011 CEG report, which is presented in the next section.

598 Australian Competition Tribunal, *Application by Jemena Gas Networks (NSW) Ltd (No 3) [2011] ACompT 6,* 25 February 2011, paragraph 102.

599 The AER evaluates the content of this report in the next section.

600 APTPPL, *Access arrangement submission*, October 2011; and SFG, *Equity beta*, October 2011

601 Australian Competition Tribunal, *Application by Jemena Gas Networks (NSW) Ltd (No 3) [2011] ACompT 6,* 25 February 2011, paragraph 103.

acknowledges that the final outcome recommended by both consultants—rejection of the AER's estimate of 0.8, and the use of an equity beta of 1.0 instead—are consistent. Nonetheless, it is a material matter that where these consultants conflict, there is no real indication from APTPPL as to which position it wishes the AER to consider. In particular, many of these contradictions relate to the econometric techniques that should be used when estimating equity beta:

- SFG stated that the AER results were unreliable because the AER did not report standard errors (and use them to construct confidence intervals).[602] CEG stated that standard errors were an 'unreliable estimate of the precision of beta estimates' and did not report them (or construct confidence intervals).[603]

- SFG stated that the AER estimates were unreliable because they did not report R^2 statistics.[604] CEG did not report R^2 statistics and considers that they are not necessary to determine reliability.[605]

- SFG stated that the AER estimates were unreliable because the AER used too little data–a combination of using not enough firms and an estimation period that was too short.[606] CEG preferred to use the same set of firms but giving weight to an even shorter estimation period—less than 170 days—to estimate equity beta.[607]

- SFG stated that the sampling interval should be monthly, in keeping with the 'standard approach', not the weekly interval reported by the AER (in addition to monthly intervals). CEG used daily and weekly sampling intervals in the core equity beta analysis, and did not report monthly intervals.[608] Elsewhere, CEG stated the analysis should use all possible sampling intervals between one week and one month (that is, starting with weekly measurements and then increasing the interval size until a monthly interval is reached).[609]

If APTPPL intends to present conflicting material from a number of experts, it needs to clearly identify which aspects of each report it endorses such that a consistent position can be discerned.

B.3.3 The March 2011 CEG report

The AER considers that, after full consideration of the material in the March 2011 CEG report, an equity beta of 0.8 is reasonable.

The report had previously been submitted to the AER in an earlier regulatory process, for the Queensland gas distribution networks.[610] The AER considered the report and published its response

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602 SFG, *Equity beta*, October 2011, p. 5 (see also pp. 18–19).

603 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 50-51.

604 SFG, *Equity beta*, October 2011, pp. 19-22.

605 CEG, *WACC estimation: A report for Envestra*, March 2011,

606 SFG, *Equity beta*, October 2011, p. 16–17.

607 CEG, *WACC estimation: A report for Envestra*, March 2011, p. 11. The 'previous report' referred to in this reference is CEG, *Cost of capital for Envestra*, September 2010, p. 25.

608 Here, 'core' refers to the fact that this analysis is the basis of the CEG recommended equity beta (of 1.0). CEG, *WACC estimation: A report for Envestra*, March 2011, p. 26.

609 CEG, *WACC estimation: A report for Envestra*, March 2011, p. 48.

610 To clarify, the March 2011 CEG report was commissioned for Envestra Ltd, which operates the other Queensland gas distribution network. The AER explicitly considered the March 2011 CEG report as part of the APT Allgas final decision (as well as the Envestra decision, of course). AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 31.

in two access arrangement final decisions in June 2011.[611] In those decision documents, after full consideration of the March 2011 CEG report, the AER adopted an equity beta of 0.8.

Where the AER has previously set out detailed reasoning in response to the March 2011 CEG report, these reasons are summarised below. The AER also includes new analysis on several key issues.

The central premise of the CEG report

At the highest level, the March 2011 CEG report contended that the AER's analysis of Australian equity beta estimates (from the WACC review) was unreliable.[612] A more reliable estimate could be determined by use of US data, which CEG calculated to be an equity beta of (at least) 1.0.[613] CEG stated that setting the equity beta at 1.0 (in conjunction with an MRP of 7.4 per cent or higher) would provide a rate of return commensurate with prevailing market conditions in the first quarter of 2011.[614]

Hence, a fundamental issue in the March 2011 CEG report is whether estimates of the equity beta generated using US data should be relied on instead of the estimates based on Australian data.

The AER considers that it is not appropriate to give more weight to the US estimates than the Australian estimates.[615] This is consistent with the relative weight given to different sources of evidence earlier in this decision document. The benchmark service provider is Australian and the AER sets the rate of return using a domestic CAPM.[616] Hence, the AER relies on Australian empirical evidence, and uses overseas data (including US data) as a cross check.

Further, the AER considers that the March 2011 CEG report does not engage with the breadth of support for the adoption of an equity beta of 0.8:

- Numerous empirical analyses of Australian energy networks, conducted independently of the AER, indicate that an equity beta range 0.4 to 0.7 is appropriate.[617] Even if CEG was correct in that the WACC review analysis of Australian equity beta estimates was flawed (which the AER does not consider to be the case), it would not follow that all these Australian equity beta estimates are unreliable.[618]

- Numerous empirical analyses of overseas energy networks, separate from that calculated by CEG, indicate that an equity beta range of 0.4 to 0.7 is appropriate.[619] Even if CEG was correct that US equity beta estimates should be used in preference to Australian estimates (which the AER does not consider to be the case), it would not follow that an equity beta of 1.0 should apply.

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611 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 29–32, 112–121; and AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 42–44, 164–172.

612 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2, 11–20, 42–52.

613 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2, 20–26, 53–60.

614 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2.

615 This is consistent with the APT Allgas final decision. See AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 112–121.

616 AER, *Final decision: WACC review*, May 2009, pp. 77–82, 255, 260–264, 311–332.

617 These are set out earlier in the decision document.

618 In particular, these alternative analyses differ from the AER analysis on the two key factors that CEG stated were the cause of this unreliability. First, they encompass different econometric techniques to those used by the AER. Second, the more recent estimates include larger data sets than those used by the AER.

619 These are set out earlier in the decision document.

This section considers in more detail the arguments from CEG on the relative reliability of the Australian and US estimates.

Australian estimates are reliable

The March 2011 CEG report made several criticisms of the empirical analysis of Australian firms undertaken by Henry for the AER's WACC review.[620] There were two broad categories of concern:

- the econometric techniques used in the analysis of the data rendered the results unreliable[621]
- regardless of the choice between econometric techniques, there was not enough Australian data to produce a reliable result.[622]

The AER considers that these criticisms are unfounded, as explained in the APT Allgas final decision:[623]

- The estimation period used by the AER is sufficiently long and likely to reflect forward looking market conditions[624]
- The sample set comprises a reasonable number of firms, with sufficiently long trading histories for an informative assessment to be made[625]
- The statistical analysis (leverage adjustment, estimation intervals, checks on autocorrelation and heteroscedasticity) is appropriate.[626]

The AER considers that its approach to estimating the equity beta has appropriately balanced the general trade-off between the potential loss in the relevance of observations and capturing sufficient observations to obtain statistically robust equity beta estimates (i.e. sample size of observations).

Further, the AER considers that there is a breadth of support for Australian equity beta estimates in the range between 0.4 and 0.7, as set out earlier in this decision (and explained in more detail in the draft decision).[627] The convergence of results across alternative econometric techniques suggests that the results are reliable, and not the artefact of a particular piece of erroneous analysis by the AER (or Associate Professor Henry). Further, the convergence of results across recent studies that use larger data sets also indicates that the results are reliable.

Moreover, analysis by CEG supports an equity beta range of 0.4 to 0.7 for Australian energy networks. CEG reported equity beta estimates for just two Australian firms in its March 2011 report,

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620 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2

621 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2, 20–21, 42–46.

622 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 1–2, 22–27, 49–53.

623 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 56, 112–115. Additional references to the WACC review and other AER decision documents are footnoted separately.

624 AER, *Final decision: WACC review*, May 2009, pp. 267–275, 278–292, 326–328; and AER, *Draft decision: APT Allgas, Access arrangement proposal for the Qld gas network, 1 July 2011 – 30 June 2016*, February 2011, pp. 266–267.

625 AER, *Final decision: WACC Review*, May 2009, pp. 255–260, 307–311, 317–320; and Henry, *Estimating beta*, 23 April 2009, pp. 10–11, 14–15.

626 AER, *Final decision: WACC review*, pp. 265–267, 275–278.

627 AER, *Draft decision*, April 2012, pp. 151–156, 321–322.

with a range of 0.32 to 0.83.[628] In its October 2010 report, CEG reported equity beta estimates for six listed Australian firms, with an average equity beta of 0.62 (median of 0.52).[629] Hence, it is not clear how CEG concluded that an equity beta of 1.0 'falls within the range of equity betas estimated using Australian data'.[630] The Australian estimates presented by CEG accord with the Australian estimates presented by the AER, falling in the range of 0.4 to 0.7.

United States estimates are not a preferable proxy

The March 2011 CEG report stated that US equity beta estimates were more reliable than the Australian equity beta estimates, principally because they are derived from consideration of a larger data set.[631] To demonstrate that Australian equity beta estimates were less reliable,[632] CEG presented detailed analysis of one US equity beta estimate from Associate Professor Henry's report for the AER's WACC review.[633] This showed the average equity beta estimate changing when the analysis used different estimation periods, different sampling intervals, or when additional firms were added to the comparator set.[634]

The AER considers that this analysis by CEG is of limited relevance.[635] The AER agrees that, all else equal, a larger data set is preferable to a small data set. However, in this instance, the larger data set is obtained by incorporating data that is less relevant to the benchmark (since the US firms differ systematically from the domestic benchmark). Hence, the key question is whether the benefits of this approach (larger data set) outweigh the costs (decreased relevance).[636] None of the empirical analysis presented by CEG is relevant to this question.

Further, the AER considers that the analysis by CEG does not help to clarify the extent to which the larger (US) data set leads to more reliable estimates than the smaller (Australian) data set. CEG restricts its analysis to US estimates, and does not undertake comparative analysis against Australian equivalents.[637] Demonstrating that US equity beta estimates are unreliable does not support the CEG position that they should be used instead of Australian estimates.[638]

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628 This range arises from the use of daily and weekly estimation intervals, and two different end dates for the estimation period. AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 56.

629 CEG, *Cost of capital for Envestra*, September 2010, p. 49.

630 CEG, *WACC estimation: A report for Envestra*, March 2011, p. 27 (paragraph 89). One interpretation might be that here 'range' refers to the construction of confidence intervals (using standard errors) around a particular point estimate. This interpretation is ruled out by the March 2011 CEG report, which explicitly rejects the validity of confidence intervals. CEG, *WACC estimation: A report for Envestra, March 2011*, pp. 50–51.

631 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 25, 27.

632 The original language used by CEG is 'highly sensitive to assumptions', but this is then equated with reliability in the conclusion of this section. CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 12, 25, 27.

633 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 12–20.

634 For clarity, this statement does not imply that the AER accepts this analysis as correct.

635 This is consistent with AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 116–121.

636 This size–relevance tradeoff is the core concern when the AER constructs its comparator set. See AER, *Final decision: WACC review*, May 2009, pp. 101–110, 255–264.

637 CEG, *WACC estimation: A report for Envestra*, March 2011, pp. 12–20. Note that at page 50, CEG asserted that the variability found in US estimates would be present in Australian estimates, but did not justify this statement (or attempt to quantify the relative magnitude).

638 That is, the AER acknowledges that estimates of equity beta might be affected by altering the estimation period, end of estimation period, sampling period (i.e. monthly vs. weekly or daily returns, including the date on which weeks or month end), or firms included within the sample. However, given that the analysis conducted by CEG is exclusively on US data, the evident variability suggests that there is no advantage relative to using Australian data

Finally, the CEG analysis focused one particular scenario from the WACC review—the Henry US estimates based on a five year data period starting in 2002 or 2003, reported as the average of individual firm results using an OLS regression.[639] However, the WACC review also considered a large number of other permutations, including estimates prepared by ACG (instead of Henry), estimates where the data period commenced in 1990 (instead of 2002), and portfolio estimates (instead of individual averages).[640] The AER considers that it is a substantial step to infer, after analysing just one scenario from the WACC review, that the exact same pattern of variability will be found in all the others.[641]

This leads to consideration of the broader pattern of empirical evidence for overseas energy networks. The US equity beta estimates prepared by CEG extend from 0.83 up to 1.12.[642] As set out earlier in this decision, there are a number of other studies using overseas energy networks and the majority have equity beta point estimates below 0.8. Further, if the key reliability criterion was the size of the data set (as advocated by CEG), several of these studies would be preferable to CEG's analysis. For instance, the Damodaran results include more businesses (drawn from US gas and electricity sectors) than CEG's largest sample (the 75 firms it refers to as the Regulatory Research Associates sample).[643] Damodaran's equity beta point estimates range from 0.85–0.86 (prior to the GFC) and 0.71–0.74 (in the years post 2009). The PricewaterhouseCoopers results for Ofgem include more results from more countries (US, UK and Europe) than the CEG analysis.[644] The PwC equity beta point estimates range from 0.55–0.78 (prior to the GFC).

The AER considers that all these overseas equity beta estimates need to be interpreted with regard to their limited relevance for the benchmark firm, which is Australian.[645] There is no consensus on the magnitude or direction of the adjustment required to convert US equity betas to Australian estimates.[646] In the APT Allgas final decision, the AER addressed several conceptual arguments put forward in the March 2011 CEG report on the expected relationship between Australian and US equity betas (for regulated energy networks).[647] The AER considers that CEG appears to have:[648]

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639 The single equity beta estimate which is the subject of investigation is at AER, *Final decision: WACC review*, May 2009, p. 330 (the estimate of 0.85 found in table 8.11, first row, fourth cell).

640 See AER, *Final decision: WACC review*, May 2009, p. 330 (every estimate other than the single cell referenced in the preceding footnote).

641 As an illustrative example of this problem, consider the selection of an estimation period. The AER indicated that the most important time period for US data was the longest, starting in 1990 (but excluding the technology bubble). By excluding this data period CEG more than halved the available data set–which makes it more likely that subsequent methodological adjustments will cause variation in results. However, this is an artefact of CEG's decision to exclude the earlier data, not the inherent unreliability of the Henry analysis. See AER, *Final decision: WACC review*, May 2009, p. 271–275, 316–320, 328–331; and AER, *Draft decision*, April 2012, pp. 334.

642 The 'final' equity beta estimates calculated by CEG are found at CEG, *WACC estimation: A report for Envestra*, March 2011, p. 26. For clarity, though CEG labelled its various subsets with the names of other entities (e.g. Essential Services Commission of Victoria, Regulatory Research Associates, etc), the estimates have all been constructed by CEG (not by the other named entities).

643 See discussion earlier in this decision document.

644 See discussion earlier in this decision document.

645 This is consistent with previous AER decision documents. See AER, *Final decision: WACC review*, May 2009, pp. 261–264; and AER, *Draft decision*, April 2012, pp. 331, 333.

646 For the avoidance of doubt, the AER only uses empirical evidence based on overseas energy networks as a cross check on the equity beta estimated using other techniques.

647 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 116–121.

648 CEG, *WACC Estimation: A report for Envestra*, March 2011, pp. 1–2, 12–27.

- inappropriately assumed, based on the absence of comprehensive analysis, that the *a priori* starting point is equality between Australian and US equity betas[649]
- mischaracterised the Australian regulatory regime as 'higher risk' without considering the particular characteristics of the Australian revenue control framework[650]
- misinterpreted the position of the New Zealand Commerce Commission's expert advisors on the relationship between US and New Zealand (and Australian) equity betas[651]
- conflated two different statistical concepts (volatility and covariance) when it examined the volatility of Australian and US share market indexes.[652]

Conclusion on the March 2011 CEG report

Based on the evidence before it, the AER considers there is no reasonable basis to conclude that US data should be given precedence over Australian data, or that US equity beta estimates will better compensate Australian regulated utilities. This is consistent with the AER's draft decision and the 2009 WACC review.

B.3.4 Uncontested material from the draft decision

The draft decision included considerable information responding to the original APTPPL proposal and accompanying consultant report by SFG. No material has been presented to the AER that contests this reasoning in the draft decision. It is not clear whether or not APTPPL accepts the critique of the SFG report. For the avoidance of doubt, the AER maintains these considerations from the draft decision.

649 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 116–117.
650 AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 117.
651 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 117–119.
652 AER, *Final decision: APT Allgas access arrangement*, June 2011, pp. 120–121.

C PMA contract buyout

Prior to 2007, the planning, design, capital expenditure (capex) project management, and operation and maintenance of the RBP were contracted to Agility Management Pty Ltd (Agility)[653] under an agreement (the PMA).[654] Under the PMA contract Agility also provided services for other gas pipelines owned and operated by APA.[655] In October 2007, APT Pipelines Limited[656] acquired the Agility business (Agility) relevant to the APTPPL's pipelines from Alinta. As a consequence of that purchase, the PMA contract was terminated. Among other things, the acquisition was intended to internalise the construction, management and services functions by acquiring Agility's various asset management contracts as well as its employees, and items of property, plant and equipment. It also involved the acquisition of contracts, rights and obligations that were not related to the RBP. [657]

The total cost to APA to acquire Agility was $206.2 million ($nominal), which included a component of $190.1 million ($nominal) that was simply referred to as goodwill in APA's accounts. The remaining $16.1 million was itemised to specific assets. However, APTPPL did not propose that any of these specific assets be included in the RBP capital base. Instead, it proposed that a portion of the goodwill, $30.1 million ($nominal), be included as stay in business capex for the RBP in the earlier access arrangement period.[658] APTPPL proposed this on the basis that the payment made for the goodwill accruing from the purchase of Agility was totally attributable to the outsourcing arrangement that was relevant to the RBP.

C.1 Final Decision

APTPPL proposed $30.1 million ($nominal) capex associated with the PMA contract buyout in its opening capital base. Instead, the AER approves an amount of $24.8 million ($nominal) as conforming capex. The AER considers this amount of capex, relating to the early termination of the PMA satisfies the requirements of r. 79 of the NGR. The AER therefore proposes to add $24.8 million ($nominal) into APTPPL's capital base in 2007–08.[659]

The AER considers that $24.8 million ($nominal) is a better reflection of the capex and opex savings that are attributed to the RBP after the PMA contract was terminated. The AER notes that this amount properly indicates the value of savings accrued from the functions that were carried out under the PMA, specific to the RBP.

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653 Alinta acquired the Agility business from AGL through a combination of merger and demerger transactions and subsequently changed the company name to Alinta Asset Management (3) Pty Limited.

654 KPMG, *APA Group Regulatory accoutring treatment of Pipeline Management Agreement termination payment*, October 2011, (KPMG report, October 2011) p. 6.

655 In April 2000, the PMA contract was entered into between AGL Pipelines Limited (ACN 009 666 700) and AGL Infrastructure Management Pty Limited (ACN 086 013 461). In June 2000, the Australian Pipelines Trust was created and acquired AGL's interest in a number of gas transmission pipelines including the RBP. Consequently, AGL Pipelines Limited became APT Pipelines Limited (ACN 009 666 700). APT Pipelines Limited is part of the APA Group and the parent company of APTPPL.

656 For the purposes of this document, APA Group (APA) is referred to as the party that terminated the PMA contract and acquired the Agility business.

657 APTPPL, *Access arrangement submission*, October 2011, pp. 36–37, KPMG report, October 2011, pp. 1, 12.

658 APTPPL, *Access arrangement submission,* October 2011, p. 36.

659 This amount will be depreciated over the earlier access arrangement period and have a value of $19.03 million ($nominal) as at 2011–12. This is discussed in the deprecation attachment 4 of the final decision.

The AER approves this amount after having assessed a spreadsheet created by APA staff in 2007, around the time of the PMA termination (2007 spreadsheet).[660] The AER conducted its analysis using this 2007 data available to the APA Board. The AER considers that this data most reasonably reflects the information that the APA Board would have taken into account in making its decision about whether or not to purchase Agility and terminate the PMA contract.

The 2007 spreadsheet details the forecasts of projected savings that would flow from the purchase of Agility in relation to the RBP and other APA pipelines. Further, as discussed in section C.3.3, the 2007 spreadsheet indicated that the expected benefit to APA (which is attributable to the RBP) over the ongoing outsourcing costs would amount to $24.9 million ($nominal).

Therefore, the AER considers that the 2007 spreadsheet provides a good basis for determining whether the capex associated with the PMA contract buyout is capex that would be incurred by a prudent service provider acting efficiently, in accordance with the accepted good industry practice, to achieve the lowest sustainable cost of providing services.[661] As a result, the AER considers that $24.8 million satisfies the requirements of rr. 79(1)(a) and (2)(a) of the NGR. This is because if the full $24.9 million ($nominal) of cost savings were rolled into the capital base, the expenditure would have an overall neutral economic value. To ensure compliance with r. 79(1)(b) and (2)(a) of the NGR, the expenditure must have an overall positive economic value. As the figures are rounded to the nearest $100 000, the first increment below $24.9 million ($nominal) is $24.8 million ($nominal).

C.2 Background

The proper characterisation of the Agility purchase under the NGR is a complex and new issue for the AER. For this reason, the AER considers it useful to set out a more detailed discussion of the background to the final decision than it would normally devote to a single issue.

In its draft decision, the AER did not approve APTPPL's proposal to capitalise a portion of goodwill associated with the buyout. The AER set out a detailed discussion of each concern it had relating to the purchase of Agility and the PMA contract buyout.[662] This was to ensure that APTPPL was properly informed and in a position to make submissions to address the AER's concerns.

In its draft decision, the AER indicated that:

1. APTPPL had not substantiated that the $30.1 million ($nominal) it was claiming as capex for the purchase of Agility was *incurred to provide, or in providing, pipeline services on* the RBP. The AER noted that it was for APTPPL to establish that the claimed expenditure met the definition of capex in r. 69 of the NGR.

   The definition of capex in r. 69 of the NGR includes a purpose test. There is a requirement for expenditure to be incurred for a particular purpose if it is to be considered capex within the scope of the NGR for a particular access arrangement. In its draft decision, the AER found that APTPPL had not provided sufficient evidence to address this requirement. The contemporaneous documents made available to the AER by APA indicated that the

660 APA, email to the AER, *RBP AA-PMA Valuation spreadsheet as requested*, 20 June 2012
661 NGR, r. 79(1)(a).
662 AER, *Draft decision,* April 2012, pp. 347–369.

expenditure was incurred for various purposes for which it appeared that APTPPL was willing to pay a premium.

In particular, the AER noted that the contract entered into in 2007 with Alinta to purchase Agility covered the purchase of contractual rights and obligations that had no connection with the RBP. More importantly, the 2007 Board minute provided to the APA Board prior to the purchase, and seeking approval for expenditure to buy the Agility business, indicated that the expenditure should be incurred for a variety of purposes and the APA Board should be willing to incur a premium in expenditure to achieve those purposes. Finally, APA's own accounts did not identify the purchase of the PMA contract rights as a separate asset with a particular value. Instead, APA's own accounts recorded that the bulk of the purchase price for Agility was for the business' goodwill, with no further breakdown as to what that goodwill incorporated.

2. The AER also set out in its draft decision that, even if all of the $30.1 million ($nominal) could be shown to meet the requirements of r. 69 of the NGR, APTPPL had failed to demonstrate that the expenditure was either efficient, in accordance with r.79(1)(a) of the NGR, or justifiable, under r.79(1)(b) of the NGR.

   The AER, using a series of different assumptions, calculated that the maximum savings arising from the buyout was, in each case, less than the $30.1 million ($nominal) that APTPPL was asserting had been spent to secure those savings. In short, on the AER's calculations, $30.1 million ($nominal) was not efficient in terms of the purchase price for the cost savings accrued to the RBP that flowed from the purchase of the Agility business.

   The AER's calculations indicated that the cost savings resulting from the purchase were in the range of $20–28 million.[663] The AER therefore took the view that it would be more expensive, over the life of the contract, to carry out the PMA buyout, than the alternative of keeping the outsourcing arrangement under the PMA on foot.

   The AER was not suggesting that the purchase of the Agility business, including the PMA contract buyout, did not have overall benefits for the APA ,or that it was not a good business decision for APA. However, specifically for the RBP, and for the purposes of making an assessment under the NGR, APA did not achieve the lowest sustainable costs by purchasing Agility at a cost of $30.1 million ($nominal) (as attributed to the RBP).

   In addition, because of the high cost paid to secure the forecast savings, the expenditure did not have a positive overall economic value. It had a net negative overall value for parties other than APA.

However, APTPPL provided very little additional information in its revised access arrangement proposal, or on any other occasions, to supplement the information that the AER noted in its draft decision was deficient or to address the concerns of the AER regarding APTPPL's proposal. Other parties did not make submissions relating to the PMA expenditure either. Instead, in its revised access arrangement proposal and ancillary discussions, APTPPL reiterated the arguments, and reasserted the amounts, it expressed in its access arrangement proposal submitted in October 2011. The AER considers that APTPPL and other affected parties have been provided with opportunities

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663 AER, *Draft decision*, April 2012, pp. 362–369

above the normal consultative processes required in the NGL and NGR, to address the issues raised in the AER's draft decision that relate to the PMA contract buyout. [664]

In relation to the first issue, concerning the purpose of the expenditure, APTPPL submitted that its entire business is the business of providing pipeline services. APTPPL also noted that an identifiable purpose of the expenditure on Agility was to bring in-house the maintenance and operation services on its pipelines that had previously been outsourced. It therefore submitted that it was reasonable to infer that the entire purchase amount that had been claimed as attributable to the RBP was incurred to provide, or in providing, pipeline services for that pipeline.[665]

This point, which is discussed in more detail in section C.4 below, does not actually address the AER's concerns. In discussions with APTPPL following the draft decision (and in the draft decision itself), attention was drawn to the fact that under r. 75 of the NGR, information in the nature of an inference must be supported by the primary information on which the inference is based. The contemporaneous information available to the AER in the form of the 2007 Board minute sought approval to incur expenditure on the purchase of Agility listed various purposes for the purchase, not all of which were relevant to the RBP. Further, the contract to purchase Agility included the transfer of various contractual rights and obligations that are not all relevant to the RBP.

APTPPL invited the AER to infer that the expenditure submitted must have been incurred to provide, or in providing, pipeline services for the RBP. However the AER pointed out that this may not be a reasonable inference to draw from the contemporaneous documentary evidence that APTPPL submitted. Nevertheless, APTPPL submitted no further arguments or information on this point.

In relation to the second issue, APTPPL did not provide substantive information to challenge the AER's assumptions and calculations in its draft decision regarding the efficiency and justifiability of the expenditure. APTPPL reasserted its own calculations without specifically addressing the errors identified by the AER in APTPPL's approach. APTPPL instead indicated that the AER would need to make its own assumptions on which to base its calculations.

However, in response to an information request by the AER, APTPPL provided a spreadsheet created for the APA Board around the time of the purchase in 2007 (2007 spreadsheet) which details the forecasts that were made about the projected savings that would flow from the purchase of Agility in relation to the RBP and other APA pipelines. The AER considers this to be a significant piece of information as it sets out contemporaneous forecasts that detail the expected savings attributable to the RBP and other specific pipelines and the nature of those expected savings.

It is clear to the AER that APTPPL has incurred some amount of expenditure that is attributable to potential savings in the operation and maintenance of the RBP. In this regard, the AER is conscious of the requirement in s. 28 of the NGL to take into account the revenue and pricing principles set out in s.24 of the NGL, particularly:

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664 NGR, rr. 58(1)(c) and 59(5)(c). On 11 May 2012, the AER provided an opportunity for APTPPL and KPMG to discuss the AER's draft decision regarding the PMA expenditure in detail. This discussion allowed APTPPL and KPMG to ask questions regarding the AER's methodology and reasons for its draft decision. The AER also held a public forum on 17 May 2012, providing another opportunity to APTPPL and other interested parties to discuss the AER's decision on the PMA contract buyout. In this forum, there were no comments or queries raised regarding the PMA contract buyout. APTPPL had the opportunity to discuss its revised access arrangement proposal with the AER Board on 15 June 2012. At this meeting APTPPL discussed its approach to the capitalisation of the PMA contract buyout.

665 APTPPL, *Revised access arrangement submission*, May 2012, p.25.

(2) A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in-

(a) providing reference services; and

(b) complying with a regulatory obligation or requirement or making a regulatory payment.[666]

The AER is also conscious of the need to ensure that the regulatory and commercial risks involved in incurring capex are also taken into account. The following revenue and pricing principles are particularly relevant in this regard:

(5) A reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which that tariff relates.

(6) Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services.[667]

The AER is aware of the potential risks that are associated with long term outsourcing arrangements and the difficulty in assessing it as efficient or justifiable. The original outsourcing arrangement between APA and Agility was for a period of 20 years. The termination of the contract brought the previously outsourced functions in-house. The AER notes that in the future, it may be that a new outsourcing arrangement is actually more efficient.

In each case, users bear the risk that these long terms contractual arrangements may not deliver the anticipated benefits over the entire period of the contract.

The effect on users of the capitalisation of the PMA buyout costs is an immediate increase in the reference tariff. An increase in costs for users is therefore a certainty. This may be offset by a lower reference tariff in the future if APA's forecast savings eventuate. However, that is not necessarily certain.

In this particular case, the original contract was entered into long before the NGR came into effect or the AER came into existence. The AER must therefore make a decision on the basis that long term arrangements were already approved and in place. However, service providers should take note that, for the future, the AER will look closely at any proposal to enter into long term outsourcing arrangements within the context of the NGR, having due regard to the regulatory, commercial and economic risks of those arrangements before approving expenditure.

C.3 Assessment approach

The assessment approach outlined in the AER's draft decision remains relevant to the AER's final decision. See attachment 8 and appendix D of the draft decision for this detail.[668]

C.4 Reasons for decision

The AER does not approve the inclusion of the proposed $30.1 million ($nominal) capex associated with the PMA contract buyout in APTPPL's opening capital base. The AER considers that an amount

666 NGL, s. 24.
667 NGL, s. 24.
668 AER, *Draft decision*, April 2012, pp. 182–185, 357–358.

of $24.8 million ($nominal) should be included in the capital base in 2007–08 as set out in revision 1.2.[669]

C.4.1 Why the AER does not approve APTPPL's proposal

Table C.1: Summary of the AER's reasons for not approving APTPPL's revised access arrangement proposal

Element	The AER's assessment of APTPPL's proposed PMA contract buyout costs
Rule 69 of the NGR requires that capex is costs and expenditure of a capital nature incurred to provide, or in providing, pipeline services.	The AER considers that it is still not clear that the claimed expenditure on the goodwill of the purchased business was all incurred to provide, or in providing, pipeline services on the RBP. However, it is clear that APTPPL has incurred some amount of expenditure that is attributable to potential savings in the operation and maintenance of the RBP.
Rule 79(1)(a) of the NGR requires that conforming capex is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.	The AER's analysis indicates that the overall expenditure on the PMA contract attributed to the RBP is greater than the cost of continuing with the PMA contract. It is therefore not expenditure to achieve the lowest sustainable cost of providing services. It therefore does not meet the criteria set out in r. 79(1)(a) of the NGR.
Rule 79(1)(b) of the NGR requires capex to be justifiable on a ground stated in r. 79(2) of the NGR. APTPPL has justified the PMA contract buyout capex specifically using r. 79(2)(a) of the NGR which requires that the overall economic value of the expenditure is positive.	The AER considers that the expenditure associated with the PMA contract buyout does not result in a positive NPV and is therefore not conforming capex for the purposes of r. 79(2)(a) of the NGR. The AER does not accept the approach for calculating expected savings over the life of the PMA contract as set out in the KPMG report.[670] The AER also considers that the PMA contract buyout capex is not justifiable under any other test under r. 79(2) of the NGR.

Source: AER analysis.

C.4.2 Expenditure incurred in providing pipeline services (r. 69 of the NGR) the AER rejects APTPPL's proposal

In its draft decision, the AER accepted that the expenditure on the PMA contract buyout is capital in nature.[671] APTPPL further submitted that the NGR does not differentiate between types of capex (tangible or intangible) and does not provide the AER with a relevant discretion to exclude capex from the capital base on this basis. The AER agrees that the NGR does not differentiate between types of capex (tangible or intangible). In its draft decision, the AER did not approve APTPPL's proposal on the basis that the PMA contract buyout capex was of an intangible nature.

The definition of capex in r. 69 of the NGR requires that expenditure *is incurred to provide, or in providing, pipeline services*. Pipeline services are defined broadly in s. 2 of the NGL as:

669 This amount will be depreciated over the earlier access arrangement period and have a value of $19.03 million ($nominal) as at 2011–12. This is discussed in the depreciation attachment 4 of the final decision.

670 The KPMG report submitted to the access arrangement proposal in October 2011.

671 APTPPL, *Revised access arrangement submission,* May 2012, p. 17; AER, *Draft decision*, April 2012, p. 358.

Pipeline service means:

(a) a service provided by means of a pipeline, including

  i. a haulage service (such as firm haulage, interruptible haulage, spot haulage and backhaul); and

  ii. a service providing for, or facilitating, the interconnection of pipelines; and

(b) a service ancillary to the provision of a service referred to in paragraph (a), but does not include the production, sale or purchase of natural gas or processable gas.[672]

The term 'pipeline services' has to be understood in the context of the relevant access arrangement. Hence, it is not controversial that expenditure incurred to provide pipeline services on other pipelines could not be claimed under an access arrangement proposal for pipeline services on the RBP. Only the portion of PMA expenditure that can be attributed to the pipeline services offered on the RBP will meet the requirements of r. 69 of the NGR. This approach is consistent with the principles of cost reflective pricing. APTPPL's tariffs on the RBP, and subsequently its cost recovery, should be calculated only on the basis of those costs which are directly attributable to the RBP.

In its draft decision, the AER indicated it was not satisfied that the PMA expenditure met the definition of capex in r. 69 of the NGR. The AER considered that APTPPL had not substantiated that the amount of the expenditure it was seeking to capitalise was incurred to provide, or in providing, pipeline services on the RBP. The AER's concerns stemmed, in particular, from a 2007 Board minute submitted by APTPPL to the AER.[673] The 2007 Board minute sets out that the PMA contract buyout was incurred for a number of purposes other than pipeline services that would be properly attributable to the RBP.

This concern was further highlighted by the fact that the contract to purchase Agility involved the purchase of other assets—contractual rights and obligations that were not specifically related to the RBP.

It is not immediately apparent that the goodwill of a purchased business is necessarily a capital asset for the purposes of providing pipeline services. Accordingly, APA's accounting treatment of the purchase price as 'goodwill' did not support the assertion that the expenditure was incurred to provide or in providing pipeline services on the RBP.

The AER's draft decision set out that APTPPL must substantiate that the goodwill, being a premium paid for unidentified benefits, is actually properly attributable to providing pipeline services on the RBP.[674]

The AER pointed out that it was inconsistent with all the contemporaneous information APTPPL had submitted, to maintain that the entire expenditure on the 'goodwill' of Agility was solely incurred to provide pipeline services over existing pipelines. The reasonable conclusion to be drawn from the available evidence was that it was incurred for various purposes and that the goodwill contained a premium that APTPPL was willing to incur to achieve these other purposes.

APTPPL addressed this issue in its revised access arrangement proposal by submitting that the ACCC, in its 2007 access arrangement decision, undertook considerable analysis of the costs

672 NGR, s. 2.
673 AER, *Draft decision*, April 2012, p. 347.
674 AER, *Draft decision*, April 2012, pp. 360–361.

associated with the PMA contract. Further, APTPPL submitted that the ACCC's approval of these costs demonstrates that the costs incurred through the delivery of the PMA were incurred in the delivery of the reference service. [675] APTPPL concluded that:

> As the costs incurred under the PMA were clearly costs incurred in providing pipeline services, APTPPL submits that by any reasonable, logical interpretation, capital incurred to reduce these costs is equally incurred in providing pipeline services. [676]

The AER does not disagree with that statement. However, the statement does not to assure the AER that the entire expenditure incurred was in fact for the purpose of reducing costs associated with the PMA contract. The contemporaneous information indicates otherwise.

APTPPL also submitted that it has only sought to capitalise that proportion of the PMA buyout costs that are quantifiable and which are supported by the operating cost savings.[677] APTPPL provided a further opinion from KPMG on this matter (May 2012 KPMG report). The May 2012 KPMG report submitted that the expenditure related to PMA was directly attributable to the provision of pipeline services. The price paid by APA for the purchase of Agility, the termination of the PMA and the associated costs and benefits, all relate to the provision of pipeline services.[678]

In particular, the May 2012 KPMG report found that the PMA asset is properly attributable to the RBP because:

- the regulatory value of the PMA asset is solely predicated on economic benefits resulting from savings in costs of operating and maintaining the RBP
- the principal objective of APA entering into the PMA was the procurement of operational and maintenance services necessary to enable APA to deliver pipeline services. Accordingly, to the extent that the PMA related to the provision of pipeline services, the termination of the PMA and the associated costs and benefits, also relate to the provision of pipeline services
- APA conducts a business of providing gas pipeline services. Accordingly, the termination of the PMA and the associated capitalised costs, relate to the provision of pipeline services, regardless of whether other reasons or benefits may have existed
- the actual or hypothetical existence of any additional reasons not connected with the provision of pipeline services neither invalidates nor changes the valuation of the PMA asset and the expenditure attributable to the RBP.[679]

APTPPL submitted that looking at the calculation of the amount of the goodwill payment to be allocated between the relevant pipelines, and the amount allocated to the RBP, the expenditure that APTPPL is seeking to capitalise only relates to:

- operating cost savings
- margins on capital works savings

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675 APTPPL, *Revised access arrangement submission,* May 2012, pp. 21–23.
676 APTPPL, *Revised access arrangement submission,* May 2012, p. 22.
677 APTPPL, *Revised access arrangement submission,* May 2012, p. 23.
678 KPMG, *Regulatory accounting treatment of PMA termination payment,* May 2012, pp. 16–17.
679 KPMG, *Regulatory accounting treatment of PMA termination payment,* May 2012, pp. 4–5.

- overheads on capital works savings
- tax benefit from purchase.[680]

While the AER agrees that the regulatory value of the PMA asset should only be predicated on economic benefits resulting from savings in costs of operating and maintaining the RBP, this was not the effect of the KPMG analysis. APTPPL's line of reasoning involves a level of circularity. In particular, it requires a starting assumption that the entire expenditure incurred on the purchase of Agility was incurred for cost savings on pipeline services attributable to the existing pipelines of APA. The difficulty, however, is that in its draft decision the AER questioned this fundamental point that the goodwill premium incurred by APTPPL was in fact an amount of expenditure incurred in full to provide pipeline services on its existing pipelines. The cost savings analysis of the AER in its draft decision did not support that conclusion. The contemporaneous information provided by APTPPL also did not support that conclusion. Further, the 2007 spreadsheet prepared for the APA Board which analysed the potential cost savings of the purchase attributed a significant amount to a 'terminal' or ongoing value of Agility, beyond the end of the PMA contract. It was clear that without this perceived ongoing benefit to APTPPL, the amount paid by APTPPL for Agility was not, at the time that APTPPL carried out its purchase, expected by APTPPL to deliver cost savings over the life of the PMA contract.

APTPPL submitted that no portion of the amount it is seeking to capitalise in respect of the PMA relates to any of the advantages outlined in the 2007 Board minute.[681] APTPPL submitted that the amount it proposed to capitalise allows APA to optimise the long term management of its key assets in an economic and operational manner.[682] Further, the KPMG report asserts that the regulatory value of the PMA asset is solely predicated on economic benefits resulting from savings in costs of operating and maintaining the RBP.[683]

The AER does not accept that these are reasonable conclusions that can be drawn from the evidence. The AER disagrees with the May 2012 KPMG report that the existence of any additional purposes for incurring the expenditure (not connected with the provision of pipeline services) neither invalidates nor changes the valuation of the PMA expenditure and the expenditure attributable to the RBP.[684] The AER considers that the additional benefits accruing more generally from the PMA contract buyout for APTPPL that were not necessarily attributable specifically to its regulated pipelines would result in an inflated purchase price, or a willingness of APTPPL to pay more to buy out the PMA contract.

The AER considers that APTPPL has not substantiated that the $30.1 million ($nominal) PMA expenditure it has sought to capitalise was incurred to provide, or in providing, pipeline services on the RBP.[685] The AER maintains the view that it is relevant and important under r. 69 of the NGR to establish the purpose for which expenditure was incurred and that that purpose should be able to be inferred on reasonable grounds from contemporaneous evidence.[686]

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680 APTPPL, *Revised access arrangement submission,* May 2012, p. 24.
681 APTPPL, *Revised access arrangement submission,* May 2012, p. 24.
682 APTPPL, *Revised access arrangement submission,* May 2012, p. 24.
683 KPMG, *Regulatory accounting treatment of PMA termination payment,* May 2012, p. 19.
684 KPMG, *Regulatory accounting treatment of PMA termination payment,* May 2012, p. 19.
685 NGR, r. 69.
686 AER, *Draft decision*, April 2012, p. 360.

The AER acknowledges that it does not necessarily follow that the price paid for the PMA contract buyout is not appropriate for APTPPL's business interests as a whole, including its regulated and unregulated pipelines and its potential to develop new service lines. Rather, the AER considers that on the information APTPPL has provided, there is insufficient evidence to substantiate that the entire $30.1 million PMA expenditure APTPPL is seeking to capitalise was incurred for the purpose of providing pipeline services on the RBP as required by r. 69 of the NGR.

C.4.3 Assessment of the PMA contract buyout under r. 79 of the NGR

Even if the PMA expenditure could be taken to meet the definitional requirements in r. 69 of the NGR, the AER is of the view that this expenditure would not satisfy the conforming capex criteria under r. 79 of the NGR. In order to be conforming capex, r. 79 of the NGR requires that:

- the capex must be such as would be incurred by a prudent service provider, acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services (r. 79(1)(a) of the NGR); and
- the capex must be justifiable under one of the sub rules in r. 79(2) of the NGR (r. 79(1)(b) of the NGR).

In the draft decision, the AER found that the expenditure did not meet either of these tests.[687] In its revised access arrangement proposal, APTPPL did not address these calculations or indicate where it thought the AER might have erred in its calculations. Instead APTPPL merely proposed the value of the PMA as set out in its access arrangement proposal submitted in October 2011, without rebutting the AER's view that these calculations were deficient.

As APTPPL has provided no substantive numbers or calculations in its revised access arrangement proposal rebutting the AER's calculations in the draft decision, the AER is required to make a final decision based on:

- the PMA costs and savings as proposed by APTPPL in its access arrangement proposal
- the information provided by APTPPL in response to requests from the AER.

The AER considered that the method applied by KPMG was inappropriate for a number of reasons:

- The KPMG report was based on an analysis of the expenditure as at 2011. It is based on some actual expenditure (incurred between 2007 and 2011) and some forecasts made as at 2011. It therefore represented a 2011 analysis of expenditure that was incurred in 2007.
- The AER is of the view that for the purposes of r. 79 of the NGR the expenditure should be assessed at the time the expenditure was incurred. A prudent service provider should conduct a thorough cost–benefit analysis of any proposed capex prior to undertaking the expenditure, rather than conducting an ex-post assessment at the time it is due to submit its access arrangement proposal.
- KPMG's 2011 analysis uses opex and capex information for the years 2008–12 that was not available in 2007. In 2007, APA had not forecast any growth capex and therefore a cost benefit

[687] AER, *Draft decision*, April 2012, pp. 362–8.

analysis undertaken at that time may have generated significantly different results to the one conducted in 2011 using all available information.

- The KPMG report indicates that APA anticipated the present value of future benefits arising from the purchase of Agility to be $243 million. However, the KPMG analysis did not take this APA analysis into account.

- KPMG is not consistent in its approach and assumptions. For example, KPMG uses year-on-year opex and capex outcomes that were only known in 2011, but uses a 2007 discount rate (which produces an inflated result for expected savings). [688]

The AER considers that its assessment under r. 79 of the NGR should be conducted based on the information that was available at the time the decision was made. An assessment done at a later point in time would not be appropriate as it would effectively be revisiting the decision with the benefit of hindsight. Therefore, for the purposes of the final decision, the AER has conducted a 2007 analysis of the forecast savings attributable to the early termination of the PMA contract. This analysis is based on the APA Board's own spreadsheet outlining forecasts of cash flows and expected savings it anticipated would arise from the purchase of the business. However, for completeness, the AER has also reviewed the 2011 analysis prepared by KPMG. These analyses are set out below.

2007 analysis

On 20 June 2012, APTPPL provided the AER with a spreadsheet prepared in 2007 which sets out the present value of savings that APA had forecast were attributable to the different pipelines it owned.[689] The 2007 spreadsheet demonstrates the PMA savings considered by APA staff at the time they were valuing the PMA. In this spreadsheet, APA attached a significant terminal value to its considerations of the PMA savings but also detailed the expected savings over the remaining life of the PMA contract which were expected to specifically accrue on the RBP.[690]

The AER has taken into consideration the 2007 spreadsheet in coming to its decision. The 2007 spreadsheet indicated that the expected benefit to APTPPL (which is attributable to the RBP) over the ongoing outsourcing costs would be $24.9 million ($nominal). Beyond the life of the PMA contract, the spreadsheet indicates that there would be a terminal or ongoing value of a further $9.3 million.[691] As discussed below, the AER does not consider that an amount attributed to savings resulting from the PMA termination should include a terminal value. This is because once the contract is at an end no future savings should be considered in respect of pipeline services on the RBP. This is explained in more detail below under the heading 'Terminal value as part of PMA expenditure'.

As part of its final decision analysis, the AER has considered the cash flows set out in the 2007 spreadsheet. The 2007 spreadsheet provides a good basis for determining whether the PMA contract buyout capex is capex that would be incurred by a prudent service provider acting efficiently, in accordance with the accepted good industry practice, to achieve the lowest sustainable cost of providing services.[692] It is also a good basis on which to assess whether the capex has an overall

689 APA, email to the AER, *RBP AA-PMA Valuation spreadsheet as requested*, 20 June 2012.
690 APA, email to the AER, *RBP AA-PMA Valuation spreadsheet as requested*, 20 June 2012.
691 APA, email to the AER, *RBP AA-PMA Valuation spreadsheet as requested*, 20 June 2012.
692 NGR, r. 79(1)(a).

positive economic value.[693] This is because the 2007 spreadsheet provides expected cash flows that APA considered prior to the termination of the PMA to justify its own decision. The 2007 spreadsheet also provides capex and opex scenarios both with the PMA continuing in place and if it were terminated.

In its draft decision, the AER based a similar 2007 analysis on summarised but incomplete information provided by APTPPL. The AER has been able to update the analysis set out in its draft decision using the full 2007 spreadsheet provided by APTPPL.

For example, the 2007 spreadsheet considers capex forecasts after removing margins that were in place under the PMA contract. These margins included savings attributed from:

- related costs including spares
- capital works margins arising.[694]

The AER considers that the analysis that APA undertook in 2007 prior to the purchase was appropriate in determining whether or not to terminate the PMA and purchase Agility. The 2007 spreadsheet is also a good basis on which to base the AER's final decision.

Accordingly, the AER accepts that $24.9 million ($nominal) is an appropriate measure of the expected benefit of the early termination of the PMA contract. This is significantly below the $30.1 million ($nominal) APTPPL submitted that it paid to secure that benefit.

Terminal value as part of PMA expenditure

For completeness, the AER considered the potential issue of an ongoing or terminal value of the purchase of Agility and the early termination of the PMA contract in its draft decision.[695]

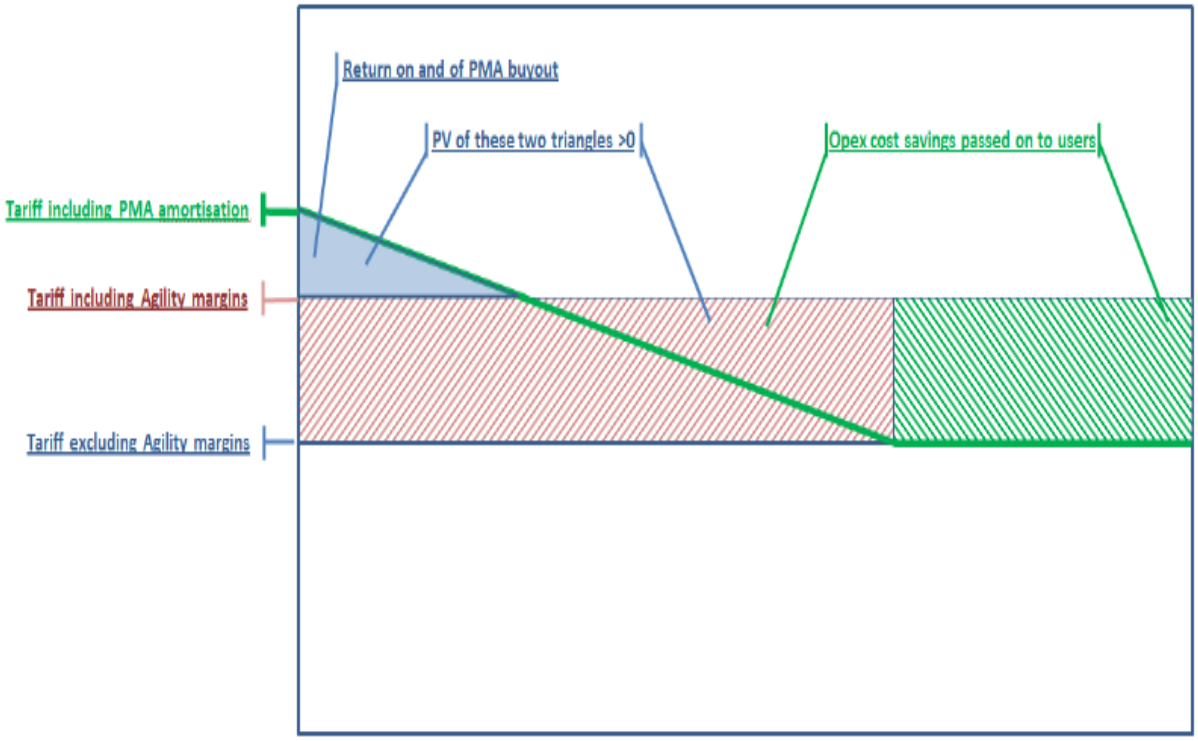
In its draft decision, the AER considered the following:

> The fact that the PMA expenditure includes a 'terminal value' suggests that APA Group included in the purchase price savings that would not have accrued under the PMA contract. Therefore, in capitalising part of the goodwill in APTPPL's capital base, users will be compensating APA over and above the expected savings under the life of the contract. The AER is of the view that in assessing the PMA expenditure, only cost savings during the life of the existing contract could potentially be compensated by users for the purposes of r. 79 of the NGR.[696]

APTPPL did not address this issue in detail in its revised access arrangement proposal and did not seek to rely on a terminal value for either its access arrangement proposal or revised access arrangement proposal. However, APTPPL indicated that there was an unvalued although real benefit to users from the purchase of Agility that would continue beyond the life of the PMA contract. In figure C.1 of its revised access arrangement proposal reproduced below, APTPPL attempted to demonstrate that there were customer benefits from the purchase that extended beyond the life of the PMA contract.

693 NGR, r. 79(2)(a).
694 APA, email to the AER, *RBP AA - PMA Valuation spreadsheet as requested*, 20 June 2012.
695 AER, *Draft decision*, April 2012, p. 362, appendix D.
696 AER, *Draft decision*, April 2012, p. 362, appendix D.

Figure C.1 APTPPL's proposed customer benefits from PMA buyout



Source: APTPPL, *Revised access arrangement submission,* May 2012, p. 32.

The AER acknowledges that an entity may include a terminal value to determine the anticipated value of an asset beyond a certain date. The AER notes this is common practice in business and is used in multi-stage discounted cash flow analysis. The terminal value indicates the value of the asset when it is sold at the end of a specified time period. This allows investors to evaluate whether or not there are any costs or benefits associated with the purchase of the asset.

However, when undertaking an analysis of potential cost savings for the purposes of r. 79 of the NGR, it is important to note that if the purchase of Agility had not occurred and the PMA contract was kept on foot until 2020, APA would then have had various options available to it. It may have had the option of renewing the contract, or of not renewing the contract, or of renewing it on different terms. It would have had the option of outsourcing to another provider or of bringing the functions in-house at that time. At the end of the contract, the AER would have had to assess what the efficient costs were under those various options at that time and in those circumstances, in order to determine what costs could reasonably be claimed by APTPPL. If it were, at that time, cheaper to bring the functions in-house than to outsource, the benchmark efficient costs for a firm in APTPPL's circumstances would be set on that basis. That is, the efficient costs benchmark for APTPPL would be its costs for performing functions in-house, and there would be no ongoing savings against that revised benchmark figure through the earlier termination of the PMA buyout. Furthermore, there is no guarantee that bringing the functions in-house would be, at that time, the cheapest option available, in any case.

Accordingly, at the end of the contract in 2020, there is no scope for future savings in relation to that contract to keep accruing to users.

As a result, the AER remains of the view that to attach a terminal value to the buyout of the PMA is inappropriate, at least for regulatory purposes and assessing what are the efficient costs for the operation of the RBP.

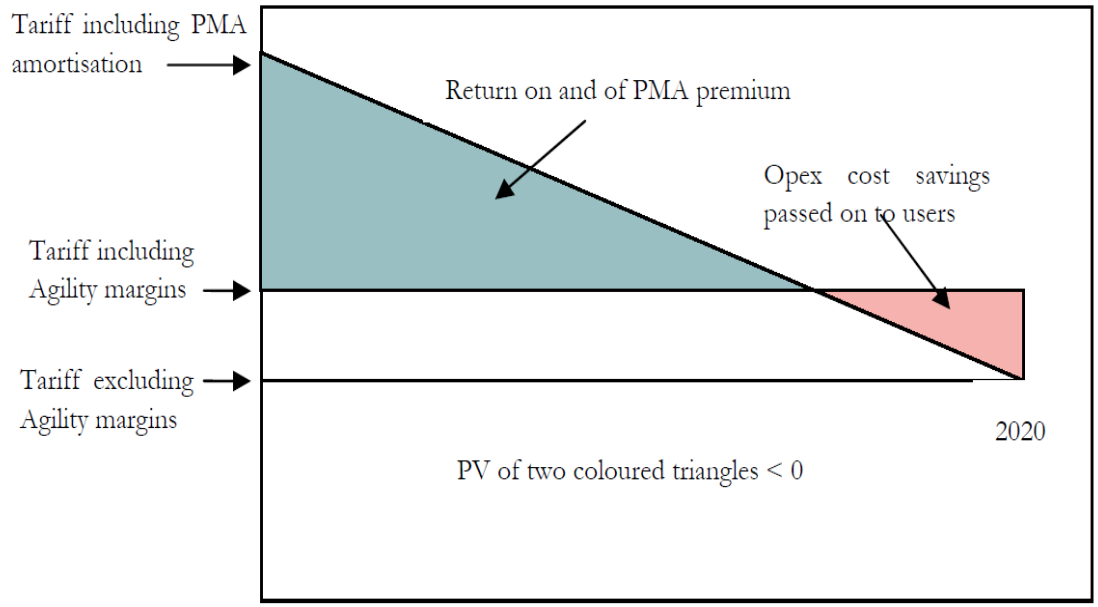
Ordinarily, even where a terminal value exists, assets forming the capital base are not valued in this way. The AER considers that when undertaking an NPV analysis, no value is attributed to an asset past its effective life. The asset in question no longer earns a return on or of capital and if the deprecation/amortisation has been done correctly, it no longer earns revenue for the service provider. This is also the case for other RBP investments, such as the Lytton Lateral, where no terminal value is attached to this expenditure.

Frontier Economics (Frontier), who were engaged by the AER, also considered that there was no terminal value that could be attributed to the PMA buyout for the purposes of analysing savings and overall economic value under r. 79 of the NGR.[697]

Figure C.2 below, provided by Frontier, illustrates the immediate negative effect on tariffs for users and how that is potentially offset by benefits to users from the PMA contract buyout. Figure C.2 shows that the savings of the PMA contract buyout accruing to users is quite small compared to the overall costs. Further, the accrued savings do not eventuate until the later years of the life of the asset meaning that users carry any risk rather than APTPPL if the forecast savings do not actually eventuate. Users would also face an immediate increase in tariffs which would only be offset when savings eventually overtook the amount paid late in the life of the asset.

Frontier also submitted that there is no justifiable reason for attributing value to the termination of the PMA from the period after 2020 on the basis that the PMA would have expired in 2020. This is reflected in its illustration of the benefits from the PMA contract buyout set out in figure C.2.

Figure C.2 Frontier analysis of benefits from PMA buyout.



697 Frontier report May 2012.

Source: Frontier Economics.

2011 NPV analysis

The AER considers that any assessment under r. 79 of the NGR should be conducted on the basis of the contemporaneous material. However, in its draft decision, the AER conducted its own analysis in response to the proposed cost savings of $33.2 million ($nominal) over the cost set out in the KPMG report. The AER and its economic consultant, Frontier, applied the same methodology as set out in the October 2011 KPMG report to test those calculations:

- Capex savings—the AER considered that the capex savings submitted in the KPMG report were not reasonable and should be lower than proposed by KPMG. The AER had concerns regarding the use of average capex over the past five years as a basis for calculating future capex.[698] The AER considered that where possible, capex savings arising from the PMA contract buyout should be based on as actual and forecast capex over the earlier and future access arrangement periods.[699]

- Opex savings—the draft decision also set out that basing future opex savings on an average of the four years from 2007–11 is a poor basis on which to estimate opex savings for the years 2012–20. This was because the opex numbers for 2007–11 fluctuate considerably and include a year in which an opex adjustment has been made due to the Queensland floods. Further, when averaged over such a short period the opex numbers are likely to give an inaccurate picture of opex savings going forward.[700]

The AER outlined these concerns in its draft decision. However, APTPPL did not address any of those concerns in its revised access arrangement proposal. The AER has rechecked it calculations and maintains the results of its own 2011 analysis.

The 2011 analysis carried out by the AER showed that the economic value of the PMA savings based on the KPMG methodology was $22.4 million ($nominal). This is significantly less than the $33.2 million proposed by KPMG and less than the $30.1 million ($nominal) APTPPL submitted it paid to secure those savings.

Assessment of the PMA contract buyout under rr. 79(1)(a)–(b) of the NGR

Efficiency test–the PMA capex assessed under r. 79(1)(a) of the NGR

Rule 79(1)(a) of the NGR requires that capex must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

Regardless of which of the analyses discussed above might be the most appropriate, the AER calculated that the resultant cost savings were less than the $33.2 million ($nominal) submitted by APTPPL and the KPMG and, more importantly, less than the $30.1 million ($nominal) which APTPPL

698 AER, *Draft decision*, April 2012, pp. 363–365.
699 AER, *Draft decision*, April 2012, pp. 364–365.
700 AER, *Draft decision*, April 2012, p. 366.

submitted it had paid to purchase those cost savings.[701] A summary of the 2007 and 2011, and the AER's final decision NPV calculations are depicted in table C.2 below.

Table C.2 Summary of cost savings analysis ($, million)

	The KPMG report (2011 analysis)	The Frontier report (2011 analysis)	AER 2011 NPV analysis	AER analysis of APA 2007 board paper
Capex savings	22.1	5.2	13.4	14.8[a]
Opex savings[a]	7.7	7.7	7.7	10.0[a]
Tax savings	3.4	0.6	1.3	
Economic value of savings	33.2	13.5	22.4	24.8
Proposed PMA expenditure	30.1	30.1	30.1	30.1
Net present value of savings	3.1	(16.6)	(7.7)	(5.3)

Source: AER, *Draft decision,* April 2012, p. 367.
a: The Frontier report accepted KPMG's estimate for opex savings conservatively; the Frontier report also notes that this opex savings estimate is likely to be significantly smaller.

The AER maintains the position set out in the its draft decision that the expenditure APTPPL claims to have incurred to buyout the PMA contract is higher than the savings that can be reasonably said to result from the purchase. This is under both a 2011 and 2007 NPV analysis.

In other words, it was more expensive and less efficient for the RBP to incur $30.1 million ($nominal) of expenditure on the PMA contract buyout than it would have been to simply keep the outsourcing arrangement in place. A prudent service provider in APTPPL's position, acting efficiently, and in accordance with good industry practice, to achieve the lowest sustainable costs for the RBP, would not have paid $30.1 million ($nominal) to buy out the PMA contract. The expenditure does not meet the requirements of r. 79(1)(a) of the NGR.

Justifiability test–the PMA capex assessed under r. 79(1)(b) of the NGR

Based on the analysis set out above, the AER also considers that the expenditure does not meet any of the justifiability criteria set out in r.79(2) of the NGR, as required by r.79(1)(b) of the NGR.

APTPPL submitted that the capex was justifiable under r.79(2)(a) of the NGR. APTPPL did not submit that the capex was justifiable under any test other than the overall economic value test in r. 79(2)(a) of the NGR. That rule sets out that capex is justifiable if the overall economic value of the expenditure is positive.

A summary of APTPPL's r. 79(2) of the NGR assessment is set out in table C.3 below.

[701] AER, *Draft decision*, April 2012, p. 367, appendix D.

Table C.3 APTPPL's proposed assessment of economic value under r. 79 of the NGR ($m nominal)

Item	Economic value to the service provider	Economic value to users
1. the cost saving delivered to users as a result of the PMA buyout during the period of the PMA buyout amortisation		Positive $33.2m
2. the capital outlay on the part of the service provider	Negative $30.1m	
3. the return on and of capital arising from including the asset in the capital base	Positive $30.1m	
4. present value of the net increase in tariffs accruing to users as a result of the transaction		Negative $30.1m
5. the cost saving delivered to users as a result of the PMA buyout following the period of the PMA buyout amortisation		Positive (not valued)
Total	Neutral	Positive

Source: APTPPL, *Revised access arrangement submission,* May 2012, p. 30.

APTPPL further submitted that:

- as the amount capitalised in the capital base (item 1 above) and the return on and of capital over the amortisation period (item 2 above) is NPV neutral
- and if, the increased tariff resulting from the return on and of capital (item 3 above) is, in present value terms over the life of the asset, less than the value of the operating cost savings passed on to users over the life of the asset (item 4 above)
- and if, operating cost savings continue to be passed on to users after the life of the asset (item 5 above)
- then, any savings passed on to users as a result of the PMA buyout will render the overall economic value of capital expenditure positive.[702]

The AER considers that the forecast capex, opex and tax savings used by APTPPL to calculate the net economic benefit from the PMA contract buyout have not been arrived at on a reasonable basis.[703] The AER's own analysis, using either a 2007 or 2011 NPV analysis (set out above), shows that the expenditure has a negative overall economic value. The projected savings are less than the amount paid to secure those savings. This results in a negative economic value for users. The expenditure is therefore not justifiable under r. 79(2)(a) of the NGR.

[702] APTPPL, *Revised access arrangement submission,* May 2012, p. 32.
[703] NGR, r. 74(2)(a).

In its draft decision, the AER considered only economic value directly accruing to the service provider, gas producers, users and end users in assessing whether the overall economic value of capex is positive under r. 79(2)(a) of the NGR.[704]

The AER considered that the economic value of the PMA contract buyout would only be positive if the present value of the PMA contract buyout was less than the present value of the charges that would have otherwise been payable by APTPPL under the PMA. This would then be removed from the net increase in the present value of APTPPL's directly incurred costs due to the PMA buyout.[705]

APTPPL indicated in its revised access arrangement proposal that it believed there was an unvalued but nevertheless positive economic effect from the ongoing value of the buyout for users after 2020. APTPPL referred to this unvalued positive economic effect as the terminal value of the PMA expenditure.[706]

Consideration of the other tests under r. 79(2) of the NGR

As discussed in the AER's draft decision, the expenditure of $30.1 million ($nominal) claimed by APTPPL is not justifiable on any other ground set out in r. 79(2) of the NGR.[707] APTPPL did not submit that the capex was justifiable under any test other than the overall economic value test in r. 79(2)(a) of the NGR. However, for completeness, the AER has considered the remaining tests in r. 79(2) of the NGR to ascertain whether there are any other grounds on which the expenditure might be justifiable.

Rule 79(2)(b) of the NGR sets out that capex is justifiable if the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capex. When considering this rule, it is also necessary to refer to r. 79(4)(b) of the NGR which provides that in determining the present value of

> incremental revenue will be taken to be the gross revenue to be the gross revenue to be derived from the incremental services less incremental operating expenditure for the incremental services.

Incremental is defined in the dictionary as 'increasing or adding on, especially in a regular series'. Rule 79(4) of the NGR therefore implies that the incremental revenue should be generated from incremental (increased) services provided by the service provider in incurring conforming capex. Given that no incremental services were provided by APA following its acquisition of Agility, there is no incremental revenue for the purposes of r. 79(2)(b) of the NGR, therefore the capex is not justified.

The AER also considered whether the capex is justifiable under r. 79(2)(c) of the NGR. The AER is of the view that the capex is not justifiable under this rule as it was not expenditure made for the purposes of that rule.

Likewise, the expenditure did not meet the requirements of r. 79(2)(d) of the NGR, which makes certain expenditure justifiable if it meets rr 79(2)(b) and (c) of the NGR in combination of the NGR.

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704 AER, *Draft decision*, April 2012, appendix D, pp. 362–363.
705 AER, *Draft decision*, April 2012, appendix D, p. 363.
706 APTPPL, *Revised access arrangement submission,* May 2012, p. 32.
707 AER, *Draft decision*, April 2012, appendix D, p. 368.

C.4.4 Does any of the expenditure meet the conforming capex criteria?

Based on the AER's 2007 and 2011 calculations, $30.1 million ($nominal) was too high a price to pay for the level of cost savings on the RBP that flowed from that purchase. For the purpose of providing pipeline services on the RBP, the purchase of Agility and the consequential in-housing of functions associated with the early termination of the PMA contract was more expensive than the alternative of keeping the PMA contract on foot. Given those circumstances, a prudent service provider seeking to achieve lowest sustainable costs for the operation of the RBP would presumably either have:

(1) sought to pay a lower price for the business. The price paid would have to be less than the identifiable savings resulting from the purchase, otherwise it would be more efficient to continue with the outsourcing arrangement.

or

(2) not bought the business and simply continued with the outsourcing arrangement.

In either of these cases, APTPPL would potentially have been entitled to claim expenditure up to the amount of the costs that would have been payable if the outsourcing arrangement under the PMA contract had continued. The outsourcing costs would have represented the maximum costs that a prudent service provider acting efficiently, in accordance with good industry practice, would have incurred to achieve the lowest sustainable cost of delivering pipeline service on the RBP.[708]

When making decisions under the NGR, the AER is required to take into account the principle that a service provider should be provided with a reasonable opportunity to recover at least its efficient costs it incurs in providing reference services. It is therefore consistent with this principle that while APTPPL should not be entitled to the $30.1 million ($nominal) it has claimed, it should be entitled to recover the lower amount of costs that it would have incurred if the outsourcing arrangement had continued.

The AER accepts certain general propositions that KPMG put forward on behalf of APTPPL, namely:

- the regulatory value of the PMA asset must be solely predicated on economic benefits resulting from savings in costs of operating and maintaining the RBP
- to the extent that the PMA contract can be said to have related to the provision of pipeline services on the RBP, the termination of the PMA and the associated costs and benefits that arise directly from the early termination, also will relate to the provision of pipeline services on the RBP.[709]

On this basis, the AER accepts that expenditure incurred on the PMA contract buyout that can be directly linked to cost savings arising from that buyout is expenditure that can be said to be incurred to provide, or in providing, pipeline services.

It is important to note that in making this statement, the AER is not approving the capitalisation of goodwill as proposed by APTPPL. There is an important distinction here. APA paid a sum of over $206 million ($nominal) for a business. It attributed approximately $190 million of that purchase price to purchasing the goodwill of the business and then sought to apportion the cost of the goodwill to the

[708] NGR, r. 79(1)(a).
[709] KPMG, *Regulatory accounting treatment of PMA termination payment,* May 2012, pp. 4-5.

different pipelines under its control. This top-down approach produced, in the AER's views, an arbitrary figure that was unsupported by evidence and which could not be appropriately substantiated as being incurred to provide or in providing pipeline service on the RBP.

However, there were costs payable directly under the PMA contract which can be appropriately estimated. Expenditure incurred to capitalise those cost savings is expenditure that can be said to be incurred to provide, or in providing, pipeline services.[710] In no circumstances would an amount that was greater than the cost savings meet the definitional requirements in r. 69 of the NGR.

As explained in section C.4.3, the 2007 spreadsheet prepared for the APA Board prior to the purchase provided contemporaneous evidence of the expected savings directly attributable to the RBP. The savings through in-housing over the ongoing outsourcing costs were forecast at the time to be $24.9 million (with the terminal value removed).[711]

For the purposes of its final decision, the AER proposes $24.8 million ($nominal) to be rolled into APTPPL's opening capital base. The AER considers that $24.8 million ($nominal) is an acceptable proportion of the capex on the PMA buyout that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.[712] Further it is the maximum amount that can be provided to APTPPL while still maintaining the requirement that the expenditure has an overall positive economic value to ensure compliance with r. 79(1)(b) of the NGR. This is because if the full $24.9 million ($nominal) of cost savings were rolled into the capital base, the expenditure would have an overall neutral economic value. To ensure compliance with r. 79(1)(b) and (2)(a) of the NGR, the expenditure must have an overall positive economic value. As the figures are rounded to the nearest $100 000, the first increment below $24.9 million ($nominal) is $24.8 million ($nominal). These results are set out in table C.4 below.

Table C.4 Net economic value NPV analysis ($, million)

	AER final decision
Capex savings	14.8[a]
Opex savings	10.0[a]
Tax savings	
Economic value of savings	24.9[a]
Proposed PMA expenditure	24.8
Net economic value	0.1

Source: AER analysis.
a: These numbers are inclusive of tax savings. Amounts are rounded.

710 NGR, r. 69.
711 APA, email to the AER, *RBP AA-PMA Valuation spreadsheet as requested*, 20 June 2012.
712 NGR, r. 79(1)(a).

C.5 Proposed revisions

The AER set out in the draft decision that it is aware of various guidelines released by jurisdictional regulators and the ACCC that specifically require the exclusion of expenditure on goodwill from a regulatory capital base.[713] However, the AER has not had regard to the approach taken by other regulators when assessing the goodwill component of the PMA contract buyout proposed by APTPPL. This is because the AER is bound to assess APTPPL's proposal under the relevant provisions of the NGL and NGR. The AER considers that $24. 8 million ($nominal) satisfies the requirements of rr. 79(1)(a) and (1)(b) of the NGR.

The AER considers that a strict adherence to the NGL and NGR in the present circumstances has resulted in a less than desirable policy outcome. For example, the capitalisation of the PMA expenditure will lead to APTPPL and users bearing an uneven level of risk over the 2007–20 period.

When it comes to making assessments about risk, the AER notes that long term outsourcing arrangements are inherently difficult to assess as efficient or justifiable. The original outsourcing arrangement between APA and Agility in this particular case was for a period of 20 years. As might reasonably be expected over such a long period of time, there were significant changes in the circumstances and business operations of both APA and Agility. This eventually made the continuation of that contract undesirable for APA, whatever may have been the case when it was first entered into.

Accordingly, after seven years of the PMA outsourcing arrangements, APA sought to purchase the Agility business and bring the previously outsourced functions in-house. APTPPL is now seeking to recover a portion of the purchase price for the Agility business as capitalised expenditure to be depreciated over the remaining 12 years that the outsourcing arrangement would have been in place. There is nothing to guarantee, however, that providing maintenance and operational services in-house will continue to be the most efficient way to perform those functions over that long period of time. There is a risk that APA (or if they were to sell the RBP, another owner) may find that a new outsourcing arrangement is actually more efficient.

In each case, it is users who appear to bear the risk that these long term contractual arrangements may not deliver the anticipated benefits over the entire period of the contract.

The immediate impact of the capitalisation of the expenditure resulting from the termination of a long term contractual arrangement such as the PMA is an increase in tariffs. This will have a negative impact on users. The AER recognises that, over time, this should be offset by claimed savings so that users are positively impacted. However, the expected positive impact in the future is not necessarily less certain because it relies on a prediction many years into the future. For example, the level of capital investment on which the proposed savings are based may not turn out to be as forecast. The opex savings forecast many years into the future may not eventuate. The expertise of the in-house staff may be lost through resignations and various other structural changes. Similarly, it may not be possible to retain key staff at the forecast levels of remuneration. It may prove necessary to again look at contracting out in future years if in-house operations cannot be maintained, or do not operate, as intended.

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[713] AER, *Draft decision*, April 2012, p. 351.

A prudent service provider will always search for the most efficient way to run its business. In some circumstances this may result in outsourcing the provision of services for the operation, maintenance and management of a pipeline while in other situations it may be more efficient for the service provider to provide these services in house. The AER recognises that the efficiencies derived from outsourcing the provision of services may vary over a period of time as the service provider's circumstances change. However, the AER is concerned that the present regulatory framework may encourage service providers to enter into long term contracts or seek to buyout contracts through transactions that might never deliver the anticipated future savings.

The AER considers there is an inherent level of uncertainty and risk associated with entering into long term contracts or capitalising the costs of existing contracts that have lengthy remaining terms and that this necessarily calls into question the extent to which such arrangements can be said to be efficient. The efficiencies and benefits that are expected to be derived from long term contracts are difficult to forecast with any certainty particularly when looking many years into the future. When assessing outsourcing arrangements in the future, the AER will have regard to these factors in making decisions about whether such arrangements meet the requirements of r.91 of the NGR. In addition, when considering the buyout of long term outsourcing contracts in the future, the AER will carefully consider all aspects of the transaction and the proposed expenditure the service provider is seeking to capitalise to ascertain whether it meets the requirements of r.79 of the NGR.