



Access arrangement draft decision
SPI Networks (Gas) Pty Ltd
2013–17

Part 1

September 2012

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Shortened forms

Shortened form	Full title
2008–12 access arrangement	Access arrangement for SP AusNet effective from 1 January 2008 to 31 December 2012 inclusive
2008–12 access arrangement period	1 January 2008 to 31 December 2012 inclusive
2013–17 access arrangement period	1 January 2013 to 31 December 2017
2018–22 access arrangement	Access arrangement for SP AusNet effective from 1 January 2018 to 31 December 2022 inclusive
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
access arrangement information	SP AusNet, Access arrangement information, 30 March 2012
access arrangement proposal	SP AusNet, Access arrangement proposal, 30 March 2012
capex	capital expenditure
CAPM	capital asset pricing model
CPI	consumer price index
Code	National Third Party Access Code for Natural Gas Pipeline Systems
DRP	debt risk premium
ESC	Essential Services Commission (Victoria)
MRP	market risk premium
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
opex	operating expenditure
PTRM	post tax revenue model
RAB	regulatory asset base
RFM	roll forward model
RPP	revenue pricing principles
SP AusNet	SPI Networks (Gas) Pty Ltd (ACN 086 015 036)
WACC	weighted average cost of capital

Summary

This is the AER's draft decision on SP AusNet's access arrangement for the 2013–17 access arrangement period. It includes the AER's draft decision on reference tariffs as well as terms and conditions for access to SP AusNet's distribution pipelines. In making its draft decision the AER applied the laws and rules governing gas access arrangements.

The draft decision sets out the AER's assessment of SP AusNet's access arrangement proposal, and details a number of revisions that AER requires SP AusNet make to its proposal to make it acceptable under the National Gas Rules. SP AusNet can lodge a revised proposal following the draft decision, and the AER will make a final decision on the revised proposal.

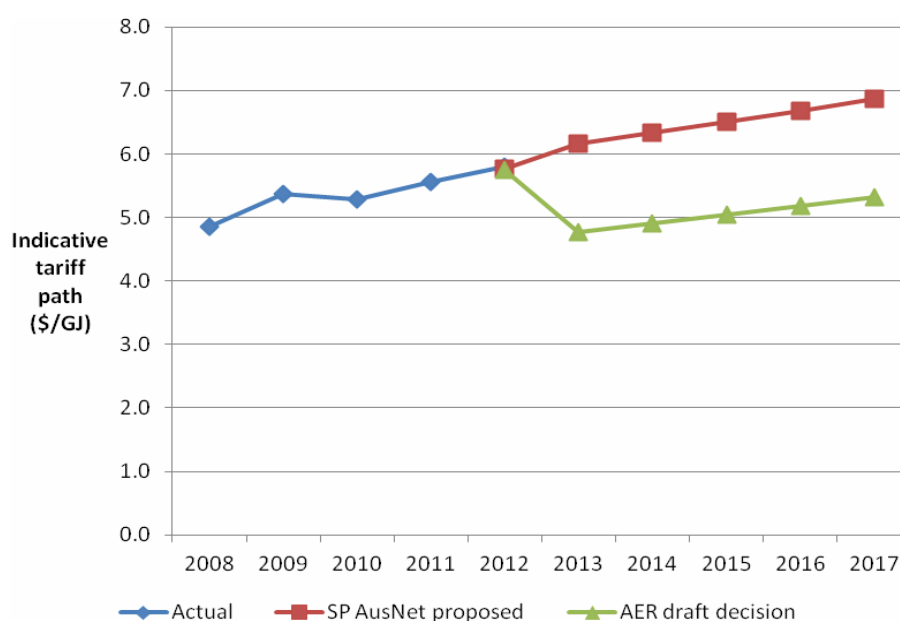
Draft decision

The AER's draft decision on the total expected revenue derived from SP AusNet's reference services is \$928 million (\$nominal). This is 21 per cent lower than SP AusNet's proposed revenue over the 2013–17 access arrangement period.

Indicative tariffs

This draft decision will result in: reference tariffs being approximately 23 per cent lower on average over the 2013–17 access arrangement period (in nominal dollar terms) compared to SP AusNet's proposed tariffs; and 7 per cent lower than average reference service charges per GJ for the 2008–12 access arrangement period. The indicative tariff path arising from the AER's draft decision compared with that in SP AusNet's proposal is shown in figure 1.1.

Figure 1.1 Indicative reference tariff paths for SP AusNet's reference services from 2013 to 2017 (\$/GJ, nominal)



Source: AER analysis.

Impact on residential bills

In SP AusNet's gas distribution network region, approximately 38 per cent of an average residential gas bill is from gas distribution reference services. If the decrease in distribution tariffs was passed through to consumers, a typical residential bill of \$1018 could be expected to reduce by approximately \$9 per year. This compares with an estimated increase of \$13 per annum (\$nominal) that would have resulted from SP AusNet's proposal.

Key differences between the draft decision and SP AusNet's access arrangement proposal

Key differences between the draft decision and SP AusNet's proposal are in regards to the rate of return, forecast capital expenditure (capex) and forecast operating expenditure (opex).

Rate of return

The rate of return relates to the cost of financing capital assets, such as providing a return on equity or paying interest on loans. The draft decision is to set a rate of return of 7.16 per cent (compared with SP AusNet's proposed 9.06 per cent). While the AER accepts most of SP AusNet's rate of return proposal, it does not accept SP AusNet's proposed risk free rate. SP AusNet proposed adopting a long term historical average risk free rate in the cost of equity. However, the AER's view is that a relatively short averaging period, sampled as close as practicably possible to the commencement of the access arrangement period, would better reflect current market conditions and risks.

Capital expenditure

The draft decision is to approve \$411.0 million of the \$528.5 million of capex proposed by SP AusNet (a reduction of approximately 22 per cent).¹ While a number of proposed capex projects were accepted, the AER rejected aspects of SP AusNet's proposed mains replacement program where these were assessed as not necessary or prudent and efficient. However, a new mains replacement pass through event is proposed for low pressure (LP) to high pressure (HP) mains replacement. This will provide SP AusNet the flexibility to access funding where a change in circumstances leads it to undertake addition LP to HP mains replacement above the approved levels. Reductions were also made to IT and overheads capex to bring these in line with industry standards. Materials and labour cost escalators have also been reduced.

Operating expenditure

The draft decision is to approve \$237.5 million of the \$272.6 million of opex proposed by SP AusNet (a reduction of approximately 13 per cent). SP AusNet proposed a number of 'step changes' to allow for adjustments to a base level estimate of annual opex. AER accepted some of these but rejected others where these did not relate to a change in circumstances or did not reflect efficient opex. As with capex, reductions were also made to the proposed materials and labour cost escalators.

¹ The proposed total of \$528.5m includes an additional project and updated information provided by SP AusNet in response to AER information requests. As such, this amount does not correspond with the total capex forecast initially provided by SP AusNet in its Access Arrangement proposal.

Next steps

SP AusNet is given the opportunity to address this draft decision by submitting a revised access arrangement proposal by 9 November 2012.

The AER invites submissions from interested parties in response to its draft decision and SP AusNet's revised proposal. The deadline for submissions is 7 January 2013. Further information on providing a submission can be found at: <http://www.aer.gov.au/node/4810>

Once the AER has considered submissions and SP AusNet's revised proposal, it will publish its final decision in March 2013.

1 About the review

The 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 is currently conducting a review of the revised access arrangements of the three Victorian gas distribution networks, including SP AusNet, and the Victorian gas transmission network. The National Gas Law (NGL) and National Gas Rules (NGR) provide the overarching regulatory framework for the gas distribution and transmission sectors.

The Victorian gas distribution networks are subject to full regulation, which requires a service provider² to submit an initial access arrangement to the AER for approval, and to revise it periodically (typically every five years). The access arrangement sets out the terms and conditions on which third parties can access the distribution pipeline.³

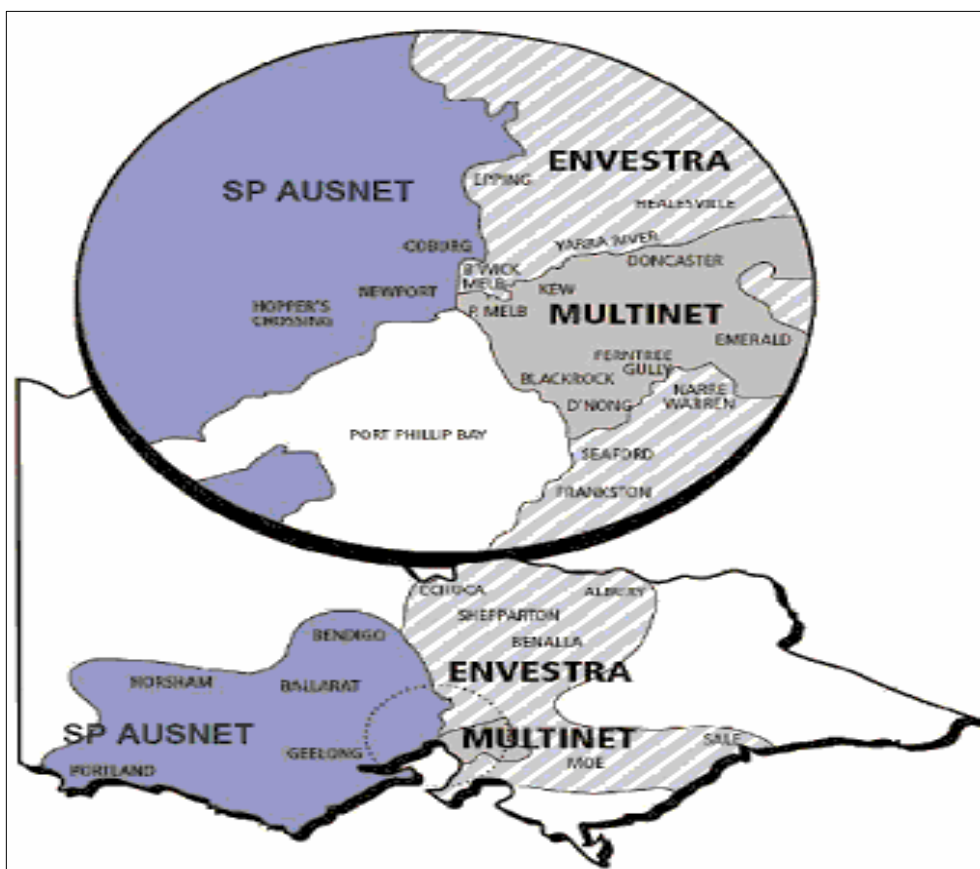
1.1 Overview of the service provider

SP AusNet is a major energy network business that owns and operates electricity transmission assets and electricity and gas distribution assets across Victoria. SP AusNet's gas distribution network delivers gas to approximately 605 000 customers across central and western Victoria. The network spans approximately 9400 kilometres across an area of 60 000 square kilometres (see figure 1.1 below).

² Under s. 8 of the NGL a service provider is a person who owns, controls or operates a gas pipeline.

³ Providers of gas distribution services typically negotiate contracts to sell pipeline services to customers such as energy retailers. Section 322 of the NGL provides that contracts between service providers and users may differ from those approved by the AER as part of an access arrangement review. In the event of a dispute, however, a user or prospective user may request dispute resolution by the AER under Chapter 6, Part 3 of the NGL. In the event that the AER makes an access determination in order to resolve the dispute, it must give effect to the access arrangement: s. 189.

Figure 1.1 Map of the Victorian gas distribution networks



1.1.2 Regulation prior to 1 July 2008

The Essential Services Commission of Victoria (ESCV) made the previous determination on SP AusNet's access arrangement for the period 1 January 2008 to 31 December 2012. The ESCV made its determination in accordance with the provisions of the National Third Party Access Code for Natural Gas Pipeline Systems (the Code).

Responsibility for the regulation of Victorian gas networks transferred from the ESCV to the AER on 1 July 2008 as part of the move towards the national regulation of the energy market. This current determination process is the first full assessment by the AER of the access arrangements of the Victorian gas distribution businesses under the NGL and the NGR.

1.2 The relevant requirements of the NGL and the NGR

This access arrangement draft decision specifies the amendments that the AER considers are required in order for SP AusNet's access arrangement proposal to be approved. These amendments have been identified by assessing each element of SP AusNet's access arrangement proposal in accordance with the relevant requirements set out in the NGL and the NGR. It is important to recognise that the requirements in the NGL and the NGR relevant to (and accordingly, the assessment required of) a particular element of SP AusNet's access arrangement proposal may differ. For example, the NGR ascribes different levels of discretion—namely full, limited or no discretion—when making certain decisions on an access arrangement proposal.

Specifically:

No discretion

(1) If the Law states that the AER has no discretion under a particular provision of the Law, then the discretion is entirely excluded in regard to an element of an access arrangement proposal governed by the relevant provision.

Limited discretion

(2) If the Law states that the AER's discretion under a particular provision of the Law is limited, then the AER may not withhold its approval to an element of an access arrangement proposal that is governed by the relevant provision if the AER is satisfied that it:

- (a) complies with applicable requirements of the Law; and
- (b) is consistent with applicable criteria (if any) prescribed by the Law.

Full discretion

(3) In all other cases, the AER has a discretion to withhold its approval to an element of an access arrangement proposal if, in the AER's opinion, a preferable alternative exists that:

- (a) complies with applicable requirements of the Law; and
- (b) is consistent with applicable criteria (if any) prescribed by the Law.⁴

For these reasons, each element of SP AusNet's access arrangement proposal has been assessed individually in separate attachments to this draft decision. The requirements relevant to each element are also set out in each of these [chapters/attachments].

However, there are two overarching requirements that apply to the assessment of SP AusNet's access arrangement proposal as a whole. First, the AER must make an access arrangement decision that is in the long term interests of consumers. Specifically, the AER must do so in a manner that will or is likely to contribute to the NGO.⁵ Section 23 of the NGL relevantly provides:

The objective of this Law is 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.

Consistent with this, r. 100 of the NGR, provides:

The provisions of an access arrangement must be consistent with:

- (a) the national gas objective; and
- (b) these rules and the Procedures as in force when the terms and conditions of the access arrangement are determined or revised.

Second, the AER must take into account the revenue and pricing principles (RPP) when exercising a discretion in approving or making those parts of an access arrangement relating to a reference tariff, or where it considers appropriate to do so.⁶ Section 23 of the NGL relevantly provides:

- (1) The revenue and pricing principles are the principles set out in subsections (2) to (7).
- (2) A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in-

⁴ NGR, r. 40.

⁵ NGL, s. 28(1).

⁶ NGL, s. 28(2).

- (a) providing reference services; and
 - (b) complying with a regulatory obligation or requirement or making a regulatory payment.
- (3) A service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. The economic efficiency that should be promoted includes-
- (a) efficient investment in, or in connection with, a pipeline with which the service provider provides reference services; and
 - (b) the efficient provision of pipeline services; and
 - (c) the efficient use of the pipeline.
- (4) Regard should be had to the capital base with respect to a pipeline adopted-
- (a) in any previous-
 - (i) full access arrangement decision; or
 - (ii) decision of a relevant Regulator under section 2 of the Gas Code;
 - (b) in the Rules.
- (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.
- (7) Regard should be had to the economic costs and risks of the potential for under and over utilisation of a pipeline with which a service provider provides pipeline services.

Ultimately, in order to properly take into account the RPP and to determine whether it will or is likely to contribute to the achievement of the NGO, a holistic assessment of an access arrangement proposal must be undertaken. This is because an access arrangement is a complex instrument that is more than just the sum of its elements or component parts. An access arrangement also represents a balance between the possible outcomes, reflecting the AER's judgment on the level of scrutiny and the form of examination afforded to all relevant material before it.

That balance also recognises that there are interlinkages between different elements of an access arrangement. These interlinkages must be taken into account in order to ensure that all of the elements of an access arrangement work together as a whole. That is, so that the terms and conditions, including prices, will, among other things, contribute to achieving efficient investment in and operation of SP AusNet's gas distribution network in the long term interests of consumers whilst providing SP AusNet with a reasonable opportunity to recover at least its efficient costs and effective incentives to promote economic efficiency. These interlinkages are set out in section 15 of the draft decision.

1.3 Access arrangement review process

Under the NGL a service provider must submit an access arrangement proposal to the AER for approval under the NGR.⁷ An access arrangement proposal contains the terms, including prices,

⁷ NGL, s. 132.

under which the service provider proposes to provide access to the services provided by their networks to users and prospective users.

When submitting an access arrangement proposal, the service provider must submit 'access arrangement information' for the proposal. The term 'access arrangement information' is defined by r. 42(1), which provides:

Access arrangement information for an access arrangement or an *access arrangement proposal* is information that is reasonably necessary for users and prospective users:

(a) to understand the background to the access arrangement or the *access arrangement proposal*; and

(b) to understand the basis and derivation or the various elements of the access arrangement or the *access arrangement proposal*.

Rule 42(2) provides that access arrangement information must include the information reasonably required by the NGL and the NGR. Rule 48 sets out general requirements including that the service provider must describe the pipeline services it proposes to offer by means of the pipeline and must specify the reference services and reference tariffs. Rule 72 lists specific information relevant to price and revenue regulation that also must be included in an access arrangement. This includes detailed forecasting information and the service provider's proposed approach to the setting of tariffs.

Following the service provider's submission of an access arrangement proposal, the AER conducts a preliminary assessment of the proposal and access arrangement information against the requirements of the NGR (see below). The AER must publish a notice (initiating notice) on its website and in a newspaper notifying receipt of, and describing the access arrangement proposal, giving a website where it can be inspected, and inviting written submissions on the proposal by a specified date.⁸ The AER may defer the initiating notice if, on a preliminary inspection, the AER considers that the proposal or related information is deficient in some respect.⁹

After considering the access arrangement proposal, any submissions in response to the service provider's access arrangement proposal, and any other matters the AER considers relevant, the AER must make an access arrangement draft decision.¹⁰ The AER must include a statement of the reasons for the draft decision.¹¹ An access arrangement draft decision indicates whether the AER is prepared to approve the service provider's access arrangement proposal as submitted and, if not, the nature of the amendments that are required in order to make the proposal acceptable to the AER.¹²

1.3.1 Access arrangement proposal to be approved in its entirety or not at all

The AER's approval of an access arrangement proposal implies approval of every element of the proposal.¹³ It follows that if the AER withholds its approval to any element of an access arrangement proposal, then the proposal cannot be approved.¹⁴

⁸ NGR, r. 58(1).

⁹ NGR, r. 58(2).

¹⁰ NGR, r. 59(1); r. 71(2).

¹¹ NGR, r. 59(4).

¹² NGR, r. 59(2).

¹³ NGR, r. 41(1).

¹⁴ NGR, r. 41(2).

If, in an access arrangement final decision, the AER does not approve an access arrangement proposal, the AER must itself propose an access arrangement or revisions to the access arrangement for the relevant pipeline.¹⁵ The AER's proposal for an access arrangement or revisions is to be formulated with regard to:

- the matters that the NGL requires an access arrangement to include
- the service provider's access arrangement proposal
- the AER's reasons for refusing to approve that proposal.¹⁶

1.3.2 Revision of access arrangement proposal and commencement of public consultation

If an access arrangement draft decision indicates that revision of the access arrangement proposal is necessary to make the proposal acceptable to the AER, the decision must fix a period for revision of the proposal.¹⁷ This is known as the revision period. In the revision period, the service provider may submit additions or other amendments to the access arrangement proposal to address matters raised in the access arrangement draft decision.¹⁸ The amendments must be limited to those necessary to address matters raised in the access arrangement draft decision unless the AER approves further amendments.¹⁹

After the AER makes an access arrangement draft decision, it must notify stakeholders, establish a procedure for stakeholders to make written submissions on the draft decision, and make the draft decision available. It must do this by publishing the decision on its website, and publishing a notice on its website and in a national newspaper.²⁰ Pursuant to r. 59(5)(c), the notice must invite written submissions. The due date for written submissions must be at least 20 business days after the end of the revision period.

After considering the submissions made in response to the access arrangement draft decision within the time allowed, and any other matters the AER considers relevant, the AER must make an access arrangement final decision.²¹

An access arrangement final decision is a decision to approve, or to refuse to approve, an access arrangement proposal.²² An access arrangement final decision, like an access arrangement draft decision, must include a statement of the reasons for the decision.²³ The final decision must also be published on the AER's website.

¹⁵ NGR, r. 64(1).

¹⁶ NGR, r. 65(2).

¹⁷ NGR, r. 59(2).

¹⁸ NGR, r. 60(1).

¹⁹ NGR, r. 60(2). For example, the AER might approve amendments to the access arrangement proposal to deal with a change in circumstances of the service provider's business since submission of the access arrangement proposal.

²⁰ NGR, r. 59(5)(b) & (c)

²¹ NGR, r. 62(1).

²² NGR, r. 62(2).

²³ NGR, r. 62(4).

1.3.3 Time limits on AER decision making

The AER is required to make an access arrangement final decision to approve or not approve the access arrangement proposal within six months of receipt of the access arrangement proposal.²⁴ For the purpose of calculating elapsed time in the making of a decision under the NGL and NGR, certain periods may be disregarded, such as a period allowed for public consultation and a period taken by the service provider to respond to a request for information from the AER.²⁵

For instance, when calculating the six month period, the AER may disregard any period allowed for public submissions on the proposal or on a draft decision.²⁶ The time taken for a service provider to remedy a deficiency in their access arrangement information under r. 43(3) of the NGR can also be disregarded for the purposes of calculating the six month period. However, the access arrangement review must be completed within an absolute overall time limit of 13 months between the date on which the service provider submits its access arrangement proposal and the AER's final decision.²⁷

1.3.4 Completeness of SP AusNet's access arrangement information

The NGR require a service provider to submit, together with an access arrangement proposal, supporting information explaining the basis and derivation of each element of the access arrangement.²⁸ Incomplete or deficient access arrangement information can impede and delay the AER's consultation and decision making processes.

Prior to receiving SP AusNet's access arrangement proposal, the AER consulted with SP AusNet to develop and refine the Regulatory Information Notice (RIN) and regulatory templates. A RIN is a compulsory information gathering notice that the AER prepares and serves on a service provider. A service provider must provide the AER with the information, and prepare, maintain or keep information in the manner and form, specified in a RIN.²⁹ The purpose of the RIN was to obtain information from SP AusNet to assist the AER in assessing its access arrangement proposal. Upon receiving SP AusNet's access arrangement proposals, the AER conducted a preliminary assessment of the proposals and access arrangement information against the requirements of the NGR. Following this assessment, the AER considered SP AusNet's access arrangement information to be deficient as it failed to include a nominated averaging period. The AER requires an averaging period in order to conduct a proper assessment of the proposed weighted average cost of capital.

Pursuant to r. 43, the AER required SP AusNet to submit further access arrangement information as an addendum to the information already submitted. The time taken to correct this deficiency was disregarded for the purposes of calculating AER decision making time.

²⁴ NGR, r. 62(7).

²⁵ NGR, r. 11.

²⁶ NGR, r. 11(1)(c).

²⁷ NGR, r. 13.

²⁸ NGR, r. 42(1).

²⁹ NGL, s. 46.

1.4 Public Consultation

The NGR require the AER to consult with interested parties at various stages during an access arrangement review. Effective consultation and engagement with stakeholders is essential to the AER's performance of its regulatory functions.

The AER invited interested parties to make submissions on SP AusNet's access arrangement proposal. The AER considered all submissions in making this draft decision.

The AER also hosted a workshop on the proposed terms and conditions. The workshop provided retailers and distributors (including SP AusNet) with a forum to identify and discuss key issues arising from the proposed amendments to the non-price terms and conditions of the distributors' access arrangements.

Table 1.1 below outlines the various stages of public consultation that the AER has undertaken as part of the review process, and upcoming consultation following this draft decision. The AER may also hold a public forum and industry workshop following the release of the AER's draft decision.

Submissions on SP AusNet's revised proposal are due 7 January 2012. Further information on providing a submission to the AER can be found at: <http://www.aer.gov.au/node/4810>

Table 1.1 Scheduled dates for key stages in the decision making process

Key stages in the decision making process	Scheduled date
AER received SP AusNet proposal	30 March 2012
SP AusNet proposal published	2 May 2012
Industry workshop on terms and conditions	18 May 2012
AER draft decision released	10 September 2012
SP AusNet revised proposal to be submitted	9 November 2012
Submissions on revised proposal due	7 January 2013
Release of AER final decision	March 2013

1.4.2 Protected information submitted to the AER

As part of the review process the AER receives protected information from the businesses and other stakeholders. The AER is committed to treating protected information responsibly and in accordance with the law.

Division 1 of Part 2 of Chapter 10 of the NGL deals with disclosure of confidential information held by the AER. The NGL authorises the AER to disclose confidential information in specified circumstances.³⁰ In summary, the AER is authorised to disclose confidential information where it is of the opinion that:

³⁰ NGL, ss. 324 to 329 (Division 1 of Part 2 of Chapter 10 of the NGR).

- disclosure would not cause detriment to the person who gave the information, or
- although disclosure would cause detriment, the public benefit in disclosing the information outweighs the detriment to the disclosing person.³¹

Before disclosing information, the AER must undertake the process set out in s. 329(2) of the NGL. It provides that the AER must: give a notice to the person who gave the information of the intended disclosure; give the person an opportunity to address the AER's case for disclosure; and properly consider that person's case for nondisclosure in making its decision.

The AER undertook the NGL process described above to disclose information where it was of the opinion that the information would be relevant to stakeholder submissions or would need to be referred to in its decision, and after it had satisfied itself of the matters required under the NGL.

1.5 Structure of decision paper

The draft decision paper is set out as follows:

- Part 1: AER draft decision—draft decision on access arrangement proposal and summary of reasons
- Part 2: attachments—detailed analysis of the various components of the draft decision (excluding analysis based on confidential information)
- Part 3: appendices—detailed discussion of common, technical issues
- Part 4: confidential appendices—sections of the AER's analysis that include protected information

In making its draft decision, the AER considered SP AusNet's access arrangement proposal and supporting information, submissions by interested parties and specialist advice provided to the AER by engineering, financial and economic experts.

The attachments to the AER's draft decision contain the AER's more detailed analysis. AER analysis that refers to protected information is contained in a confidential appendix to the decision.

³¹ NGL, s. 329(1).

2 AER approach

As the owner and operator of a gas distribution network, SP AusNet is required to submit an access arrangement to the regulator for approval. An access arrangement sets out the terms and conditions under which third parties can use a pipeline. It must specify at least one reference service likely to be sought by a significant part of the market, and a reference tariff for that service. As the national energy regulator, the AER is required to assess SP AusNet's proposed gas access arrangement for the 2013–17 access arrangement period.

In order to assess SP AusNet's proposal, the AER must first identify the covered pipeline that will be regulated through the access arrangement. That is, the 'reference services' covered by the access arrangement. For this draft decision the reference service is essentially the haulage reference services provided by SP AusNet which provide for the injection, withdrawal and conveyance of gas on its gas distribution network. This is discussed in more detail in chapter 4 and attachment 1.

The AER's then undertakes the more substantial task of assessing and providing a draft decision on:

- tariffs for regulated pipeline services (reference services)
- non-tariff terms and conditions for reference and ancillary services.

2.1 Tariffs for reference services

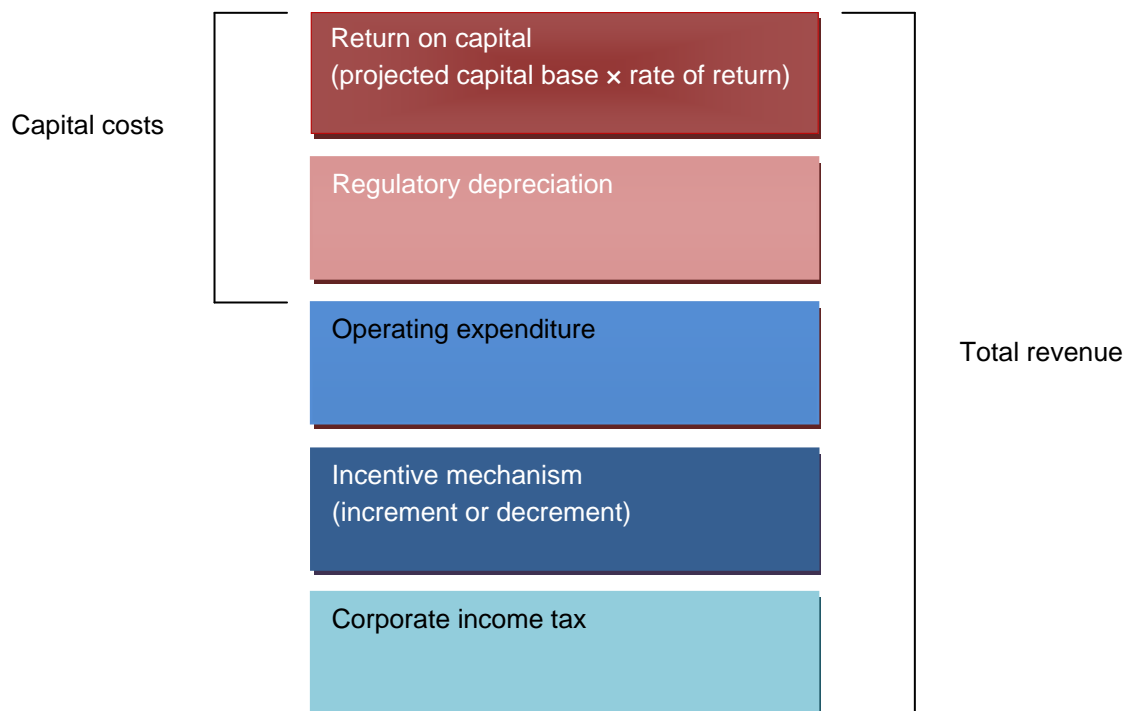
Assessing tariffs for reference services involves first assessing the total revenue required to deliver SP AusNet's distribution services. Consistent with the NGR, the AER uses the building block approach to determine the total revenue allowance. Total revenue under the building block approach is set 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 incorporating:
 - the capital base – chapter 5 and attachment 2
 - capital expenditure (which forms part of the capital base) – chapter 6, attachment 3 and confidential appendix A
 - a rate of return – chapter 7 attachment 4 and appendix B
- regulatory depreciation of the projected capital base – chapter 8 and attachment 5
- forecast operating expenditure – chapter 9 and attachment 6
- increments and decrements resulting from an incentive mechanism³² – chapter 10 and attachment 7
- corporate income tax³³ – chapter 11 and attachment 8.

³² This may relate to operating expenditure and/or capital expenditure depending on the incentive mechanism.

This is illustrated in figure 2.1.³⁴

Figure 2.1 Building block approach



These building blocks are taken into account in determining SP AusNet's total revenue. That total revenue in general terms, is a forecast of its efficient cost of providing gas distribution services. For the AER's draft decision on SP AusNet's required revenue, see chapter 3.

Once total revenue is determined, revenue is allocated to reference and other pipeline services. The tariffs for the reference services are determined with regard to the recovery of the total revenue required to provide those services and the forecast demand for those services. Hence, demand forecasts are an important component of the AER's draft decision on tariffs for reference services. Demand is discussed in chapter 12 and attachment 9.

In relation to tariffs, the access arrangement also details:

- how tariffs for reference services will be set (chapter 13 and attachment 10 relate to tariff setting)
- the mechanism for varying tariffs annually and arrangements for varying tariffs in certain pre-specified conditions (chapter 14 and attachment 11 discuss the tariff variation mechanism).

2.2 Non-tariff terms and conditions

Non-tariff terms and conditions essentially define the commercial relationship between the network service provider and users. In considering SP AusNet's proposal, the AER assesses whether

³³ 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.

³⁴ AER, *Access arrangement guidelines*, March 2009, p. 55.

SP AusNet's proposed terms and conditions are consistent with the NGO and the broader regulatory framework. While parties can agree on terms that are different to those set out in SP AusNet's access arrangement proposal, the AER's approved terms and conditions can act as a starting point for negotiations.

The AER's consideration of the access arrangement's non-tariff components is set out in chapter 15, attachment 12 and appendix E.

2.3 What the AER considers in reaching its draft decision

The AER's draft decision on SP AusNet's 2013–17 access arrangement has been made in accordance with the relevant sections of the NGL and NGR.

In forming its draft decision, the AER has:

- considered SP AusNet's access arrangement proposal and other supporting information provided by SP AusNet
- considered submissions from interested parties
- considered views expressed at stakeholder events
- undertaken its own analysis to verify the information provided by SP AusNet
- considered expert advice or analysis commissioned in relation to certain aspects of SP AusNet's access arrangement proposal.

SP AusNet prepared a clear and well reasoned proposal with additional information to support their proposals where required. This meant the AER had most of the information required to assess the proposal from the start, which avoided any significant delays to the process. In particular, the manner in which SP AusNet engaged with the process meant the AER could readily understand where and how SP AusNet's proposal complied with the relevant regulatory requirements.

For more on the steps undertaken by the AER in coming to this draft decision, as well as an overview of the regulatory framework, see the introductory chapter at the beginning of this document.

3 Total revenue requirements and the impact on price

SP AusNet's total revenue, in general terms, is a forecast of its efficient cost of providing gas distribution services.

The total revenue set out in this draft decision has been determined by assessing each element of SP AusNet's access arrangement proposal. These elements include the building blocks, which have been assessed to ensure that they are consistent with the costs that would be incurred by an efficient service provider in providing gas distribution services. This also includes taking into account any relevant interlinkages that exist between the elements of SP AusNet's access arrangement proposal.

These elements are discussed in more detail in the remainder of the overview, as well as in the attachments to this draft decision. The interlinkages are discussed in chapter 16 of this draft decision.

This section also includes some analysis on the likely impact of this draft decision on prices for end consumers. This analysis has been undertaken with reference to the AER's draft decision on tariffs.

In making its draft decision the AER considered SP AusNet's proposal and supporting information as well as information from consultants, where relevant.

3.1 Draft decision

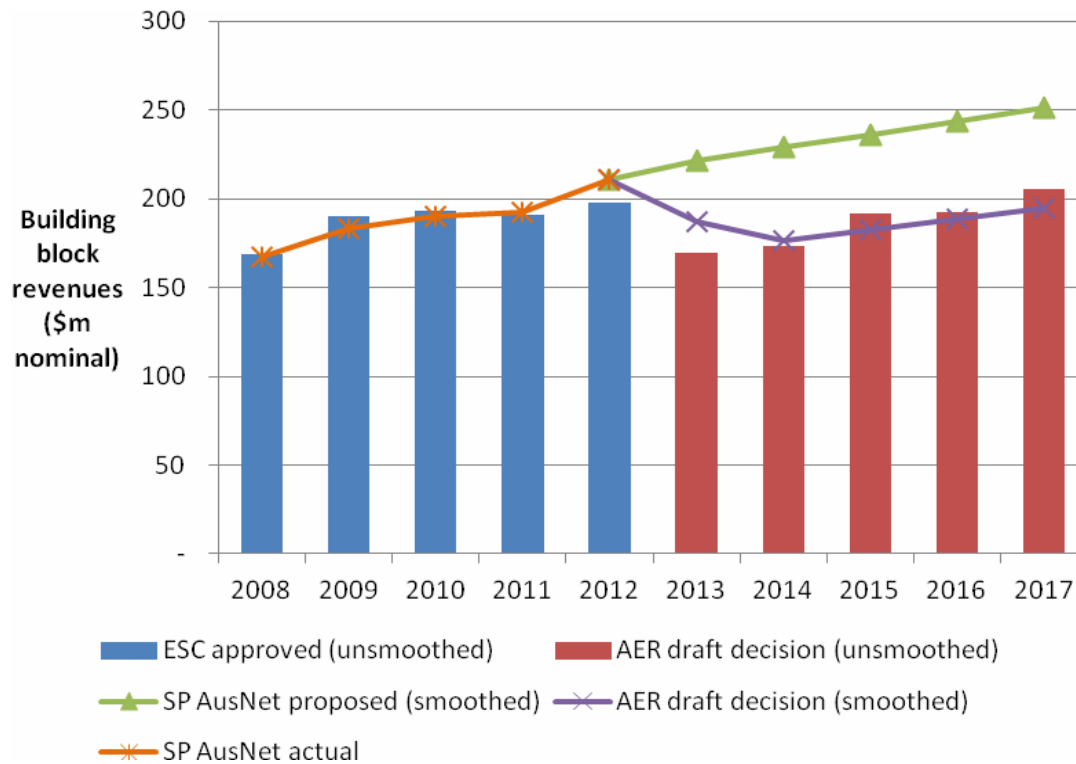
The AER's draft decision on the total (smoothed) expected revenue derived from SP AusNet's reference services is \$928.4 million (\$nominal), which includes \$11.7 million (\$nominal) for ancillary reference services. This is calculated by smoothing the total building block revenue requirement of \$933.0 million (\$nominal).

This (smoothed) revenue requirement is 21.4 per cent lower than SP AusNet's proposed (smoothed) reference services revenue over the 2013–17 access arrangement period. The AER accepts that many aspects of SP AusNet's proposed access arrangement proposal are consistent with the requirements of the NGR. However, the AER has not approved all elements. The key elements of the AER's draft decision which would reduce SP AusNet's proposed revenue involve:

- the rate of return
- capital expenditure (capex)
- operating expenditure (opex).

Figure 3.1 compares SP AusNet's proposal with the AER's draft decision for revenues over the 2013–17 access arrangement period and the revenue approved by the ESC over the 2008–12 access arrangement period. SP AusNet's proposed smoothed revenues for the 2013–17 access arrangement period are 25.4 per cent higher than the ESC allowed revenues for the 2008–12 access arrangement period.

Figure 3.1 AER's draft decision compared to SP AusNet's proposed revenue requirement and approved revenue for 2008–12 (\$million, nominal)



Source: AER analysis.

The AER's draft decision on SP AusNet's total revenue is arrived at by summing the 'building blocks' that were set out earlier in chapter 2 of this document. These building blocks are displayed in table 3.2 and are each discussed in greater detail in this overview and the attachments to the document.

Table 3.2 AER's draft decision on SP AusNet's proposed revenue requirements for its reference services (\$million, nominal)

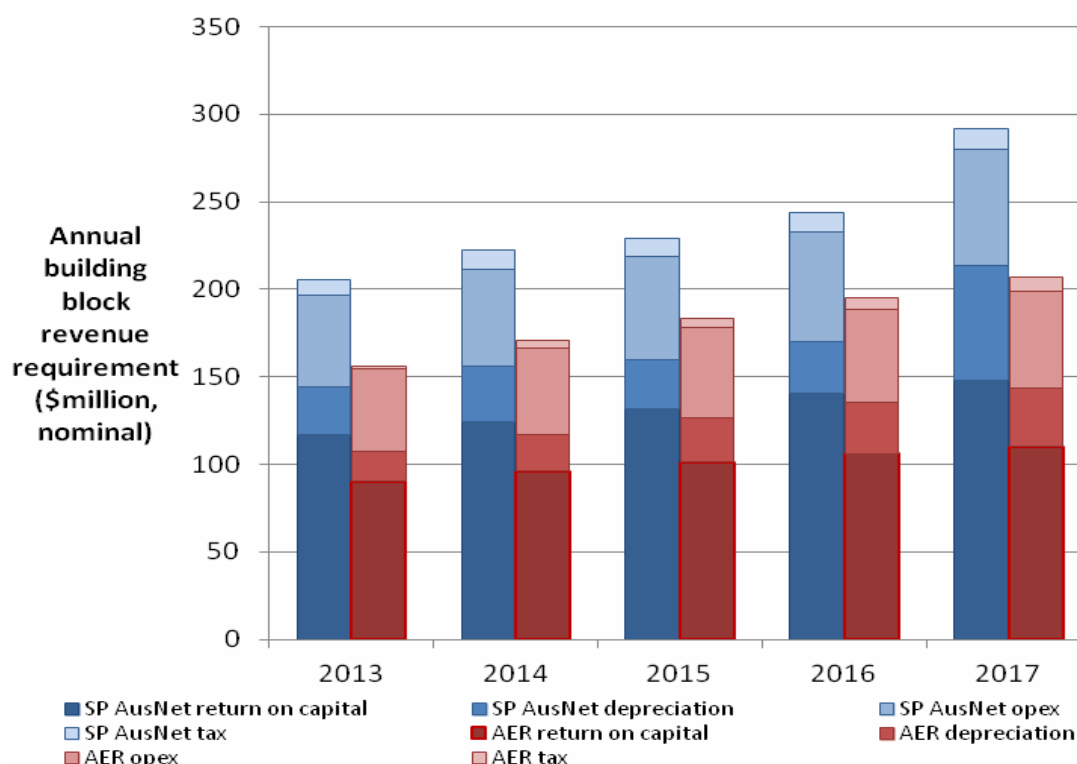
	2013	2014	2015	2016	2017	Total
Return on capital	90.3	95.9	101.2	105.8	109.7	502.9
Regulatory depreciation	16.9	21.1	25.5	29.0	33.0	125.5
Operating expenditure	47.1	49.3	51.1	53.2	55.5	256.1
Efficiency carryover	13.7	3.5	9.2	-1.3	-	25.2
Net corporate income tax allowance	1.6	3.9	4.9	5.9	7.1	23.3
Annual building block revenue requirement (unsmoothed)	169.5	173.6	191.9	192.6	205.3	933.0
Annual expected revenue requirement (smoothed)	187.3	176.1	182.2	188.4	194.4	928.4
X factor	21.4%	0.0%	0.0%	0.0%	0.0%	n/a
Less: ancillary reference service revenue	2.2	2.3	2.3	2.4	2.5	11.7
Net reference services revenue	185.2	173.9	179.8	186.0	191.9	916.7

Source: AER analysis.

n/a Not applicable.

The effect of the AER's draft decision on each of the building blocks and on SP AusNet's proposed total (unsmoothed) revenue requirement is displayed in figure 3.2. This shows that the AER's draft decision will reduce SP AusNet's proposals for the return on capital, opex, depreciation and tax building blocks.

Figure 3.2 AER's draft decision and SP AusNet's proposed revenue requirement (unsmoothed), by building block (\$million, nominal)



Source: AER analysis.

3.1.2 Sensitivity analysis

This section provides additional analysis to consider how revenue has changed between SP AusNet's proposal and this draft decision and the key drivers of this.

The AER's draft decision is to approve a smoothed revenue requirement for SP AusNet's reference services of \$928.4 million (\$nominal) over the 2013–17 access arrangement period, which includes \$11.7 million (\$nominal) for ancillary reference services. This is calculated by smoothing the total building block revenue requirement of \$933.0 million (\$nominal). The AER's draft decision on smoothed reference service revenue represents a 21.4 per cent reduction of SP AusNet's proposed smoothed revenue over the 2013–17 access arrangement period.

This reduction is primarily driven by differences between SP AusNet's proposal and the draft decision on:

- rate of return, which has reduced from 9.06 per cent to 7.16 per cent
- forecast net capex, which has reduced from \$577.5 million (\$nominal) to \$451.6 million (\$nominal) (a reduction of approximately 21.8 per cent)

- forecast opex³⁵, which has reduced from \$318.9 million to \$281.4 million (\$nominal) (a reduction of approximately 11.8 per cent).

Table 3.3 shows that total unsmoothed revenue would be \$165.2 million (\$nominal) or 14 per cent lower than SP AusNet's proposed total revenue when the AER's draft decision rate of return is adopted.

Table 3.3 Changes to SP AusNet's proposed total unsmoothed revenue, when AER's draft decision WACC parameters are adopted

	SP AusNet's proposal (per cent)	AER's draft decision (per cent)	Revenue change (\$million, nominal)	Revenue change (per cent)
Risk free rate	3.99 (for debt) 5.99 (for equity)	2.98	-158.9	-13.4 ^a
DRP	3.92	3.76	-7.1	-0.6 ^b
WACC	9.06	7.16	-165.2	-14.0 ^c

Source: AER analysis.

- (a) The AER has accepted SP AusNet's proposed method for calculating the risk free rate used to determine the cost of debt. The difference between this risk free rate and the AER's draft decision, therefore, is due entirely to the AER's draft decision relying on data from a more recent indicative averaging period. That is, SP AusNet's proposed rate is based on market data from November–December 2011, whereas the AER's draft decision is based on market data from July–August 2012. The AER will update this data for its final decision to reflect SP AusNet's final averaging period. In contrast, the AER has not accepted SP AusNet's proposed method for calculating the risk free rate used to determine the cost of equity. Hence, the difference between the AER's risk free rate and that proposed by SP AusNet (for equity).
- (b) The difference between the DRP proposed by SP AusNet and the AER's draft decision predominantly reflects the difference in indicative averaging periods (as explained for the risk free rate). The AER, however, has also amended the bond sample relied on by SP AusNet to extrapolate the Bloomberg fair value curve. This amendment, albeit minor, is discussed in greater detail in attachment 4 of this draft decision.
- (c) The impact from each individual parameter change does not add up to the total impact of the WACC change (last row in the table). This is due to the interaction of individual parameters that contribute to calculating the WACC.

Table 3.3 shows that total unsmoothed revenue, based on the AER's draft decision forecast capex, would be \$22.2 million (\$nominal) or 1.9 per cent lower than SP AusNet's proposed total proposed revenue. It also shows that when the AER's draft decision opex is adopted, the total unsmoothed revenue would be around \$37.5 million (\$nominal) or 3.2 per cent lower than SP AusNet's proposed total revenue.

Table 3.4 Changes to SP AusNet's proposed total unsmoothed revenue, when AER's draft decision capex and opex forecasts are adopted

	SP AusNet's proposal (\$million, nominal)	AER's draft decision (\$million, nominal)	Revenue change (\$million, nominal)	Revenue change (per cent)
Capex ^a	577.5	451.6	-22.2	-1.9%
Opex ^b	318.9	281.4	-37.5	-3.2%

Source: AER analysis.

³⁵ Includes carryover amounts.

- (a) These are forecast net capex for the 2013–17 access arrangement period.
- (b) Includes carryover amounts.

3.2 Impact on prices

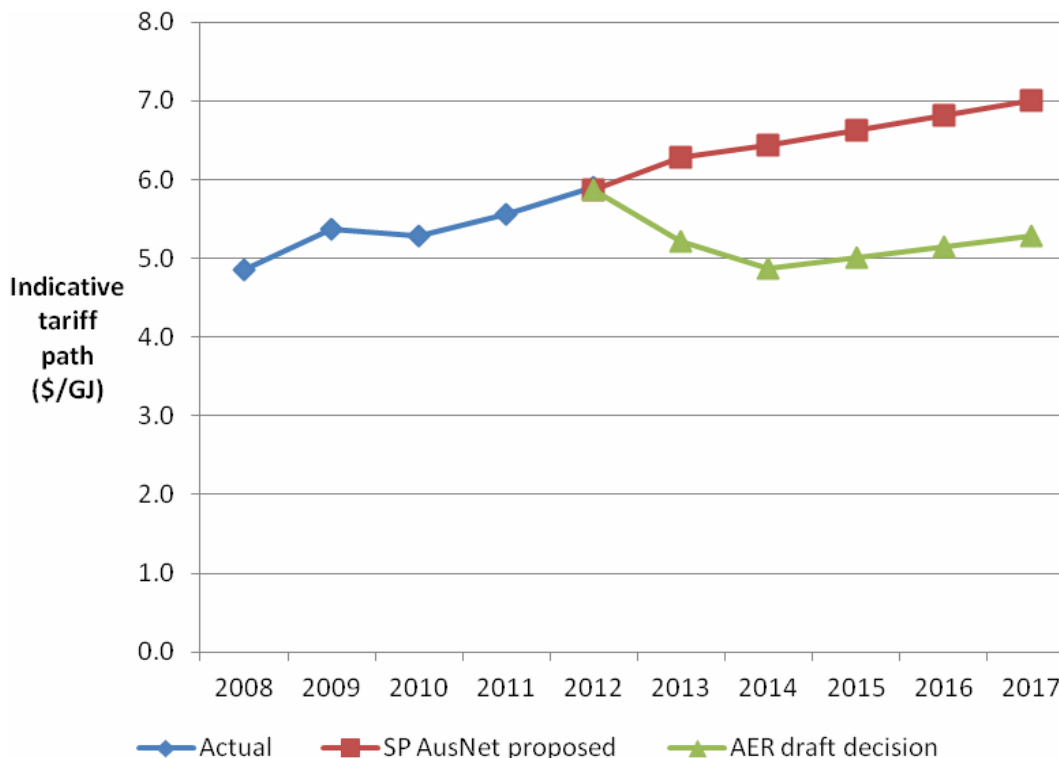
3.2.1 Reference tariffs

The effect of the AER’s draft decision on SP AusNet’s forecast reference tariffs for its reference services can be estimated by comparing these with SP AusNet’s forecast reference tariffs. Using this approach the AER estimates that the draft decision will result in reference tariffs being 23 per cent lower on average over the 2013–17 access arrangement period in nominal dollar terms than SP AusNet’s proposed tariffs.

The AER’s draft decision will result in average reference service distribution charges (\$/GJ of demand) for the 2013–17 access arrangement period that are 7 per cent lower than average reference service charges per GJ for the 2008–12 access arrangement period.

These lower reference tariffs are largely driven by the AER’s draft decision on a lower rate of return, and lower forecast capital and operating expenditure allowances. This is also reflected in no real price increases (known as X factors). The indicative tariff path arising from the AER’s draft decision compared with that in SP AusNet’s proposal is shown in Figure 3.3.

Figure 3.3 Indicative reference tariff paths for SP AusNet’s reference services from 2013 to 2017 (\$/GJ, nominal)



Source: AER analysis.

3.2.2 Average retail customer bill

In SP AusNet's gas distribution network region, the proportion of the average residential gas bill attributable to gas distribution reference tariffs is estimated to be approximately 38 per cent.³⁶

The AER's draft decision on SP AusNet's access arrangement proposal is not expected to contribute towards any price increase for a typical residential bill of \$1018 per year.³⁷ The expected lower revenues under the AER's draft decision over the 2013–17 access arrangement period results in lower distribution tariffs compared to SP AusNet's proposal. If these lower distribution tariffs were passed through to end consumers, a typical residential bill could be expected to reduce by up to approximately \$9 per year. Under SP AusNet's proposal the estimated increase in a typical residential gas bill would be approximately \$13 per annum (\$nominal) or \$67 in total over the 2013–17 access arrangement period.

Similarly, the AER's draft decision is not expected to contribute towards any price increase for the typical non-residential bill of \$6173 per year. The proportion of the average non-residential gas bill attributable to gas distribution reference tariffs in SP AusNet's region is estimated to be approximately 25 per cent. If these lower distribution tariffs were passed through to end consumers, a typical non-residential bill could be expected to reduce by up to approximately \$34 per year. By comparison, under SP AusNet's proposal the estimated increase in a typical non residential bill would be approximately \$53 per annum (\$nominal) or \$265 in total over the 2013–17 access arrangement period.

³⁶ The AER derived an estimate of the proportion of distribution charges that contribute to the typical residential and non-residential (businesses) customer bills based on annual consumption of 60GJ and 500 GJ per annum, respectively. This is consistent with data sourced from the ESC's published standing offer bills contained in its *Energy retailers comparative performance report – Pricing 2010–11*, and SP AusNet's approved tariffs for 2010 and 2011. The averages of the tariffs across SP AusNet's distribution zones applied in the AER's analysis uses a weighted average of volume by tariff class.

³⁷ The average residential and non-residential bills are calculated as the average standing offer contract for a customer consuming 60 GJ and 500GJ per annum, respectively. The averages are calculated across each of SP AusNet's distribution zones. Standing offer prices charged by retailers represent charges applied to those customers who have not switched from their incumbent or local retailer.

4 Services covered by the access arrangement

In considering a full access arrangement for a gas pipeline network, 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 reference service(s) that will be regulated through the access arrangement. A service is deemed a reference service if it is a pipeline service that is likely to be sought by a significant part of the market.³⁸ The full draft decision and the AER's detailed reasons and analysis on the services covered by the access arrangement can be found in attachment 1.

4.1 Draft decision

SP AusNet provides for three categories of haulage reference services which allow for the injection, conveyance and withdrawal of gas. The AER considers that these services are likely to be sought by a significant part of the market and proposes to approve these reference services. SP AusNet proposed removing an ancillary service that it currently offers—that is, the meter and gas installation test service. The AER considers that this ancillary service is likely to be sought by a significant part of the market and hence, the AER's draft decision is to retain it as a reference service. The remaining ancillary services are carried over from SP AusNet's current access arrangement. The AER considers that these services are likely to be sought by a significant part of the market.

³⁸ NGR r. 101(2).

5 Capital base

The capital base is the value of SP AusNet's capital assets—including gas distribution pipelines, connections, IT systems, plant and equipment, motor vehicles and buildings—that are required to provide reference services. The capital base is the value on which SP AusNet can earn a rate of return. Further, SP AusNet is allowed to earn a depreciation allowance (or a return of capital) on assets in its capital base. Hence, the capital base is an important input to the return on capital and depreciation building blocks and accordingly, the revenue requirement.

As part of this draft decision, the AER is required to assess SP AusNet's proposed opening value for the capital base for each year of the previous and upcoming access arrangement period. This involves the AER:

- Confirming the value of the opening capital base at 1 January 2008 (the first year of the 2008–12 access arrangement period). This involves assessing whether SP AusNet's actual capex in 2007 is conforming capex and adjusting for differences between actual conforming capex and estimated capex for 2007.³⁹ Conforming capex is essentially that which would have been undertaken by an efficient distribution service provider in providing reference services.
- Rolling forward the opening capital base as at 1 January 2008 to determine the closing capital base as at 31 December 2012.⁴⁰ This involves, for each year:
 - adding conforming actual capex and any speculative capex (which became conforming capex) or redundant assets that were reused during the 2008–12 access arrangement period
 - removing forecast depreciation, any capital contributions, any redundant assets and any disposals
 - indexing the roll forward for actual inflation.
- Using the AER's draft decision on forecast depreciation, capex, disposals and inflation for the 2013–17 access arrangement period to roll forward SP AusNet's projected capital base for each year of that access arrangement period. In particular, conforming forecast capex is added to the capital base while forecast depreciation and disposals are removed from the capital base. Forecast inflation is used to index the resulting capital base.

Following this process, the AER's draft decision includes a forecast value of SP AusNet's capital base as at 1 January 2013 and a forecast closing capital base at 31 December 2017.

The full draft decision and the AER's detailed reasons and analysis on the capital base can be found in attachment 2.

³⁹ This is required because the 2008–12 access arrangement was agreed in 2007, and hence capex in 2007 was estimated rather than actual.

⁴⁰ This closing capital base is also used as the value of the opening capital base as at 1 January 2013 for the 2013–17 access arrangement period.

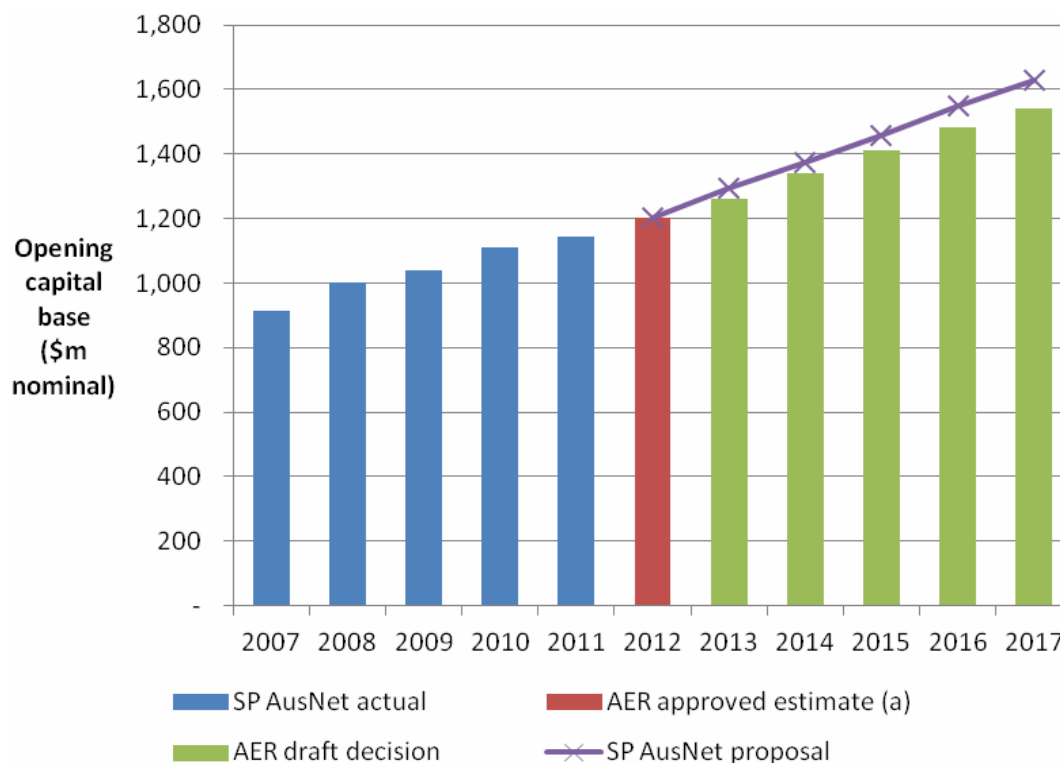
5.1 Draft decision

The AER does not approve SP AusNet's proposed opening capital base of \$1292.6 million as at 1 January 2013 because it considers that some of SP AusNet's inputs into the capital base roll forward model do not comply with the NGR.⁴¹ These include:

- SP AusNet's proposed depreciation approach
- the standard economic lives and remaining economic lives as at 1 January 2013
- SP AusNet's proposed depreciation calculation for existing assets in the opening capital base.

After adjusting these inputs, the AER has determined an opening capital base of \$1261.6 million (\$nominal) as at 1 January 2013, which is approximately \$31 million less than that proposed by SP AusNet. Figure 5.1 shows SP AusNet's past actual opening capital base values compared to forecast values.

Figure 5.1 SP AusNet's past and forecast opening capital base and the AER's draft decision on the opening capital base (\$million, nominal)



Source: AER analysis.

Table 5.5 shows the AER's draft decision on the roll forward of SP AusNet's capital base during the 2008–12 access arrangement period.

⁴¹ NGR, r. 77(2).

Table 5.5 AER's draft decision on SP AusNet's capital base roll forward for the 2008–12 access arrangement period (\$million, 2012)

	2008	2009	2010	2011	2012
Opening capital base	1153.7	1177.1	1198.2	1217.1	1245.2
Capex	75.3	76.0	76.8	85.8	75.6 ^a
Less: customer contributions	4.1	3.4	3.6	3.6	4.0
Less: disposals	0.4	0.2	0.1	0.0	0.0
Less: depreciation	47.4	51.3	54.0	54.1	55.2
Closing capital base	1177.1	1198.2	1217.1	1245.2	1261.6
Opening capital base at 1 January 2013					1261.6

Source: AER analysis.

(a) Based on adjusted benchmark capex.

Based on the above opening capital base for 1 January 2013, and the AER's draft decisions on forecast capex, depreciation, and inflation, the AER has determined a projected closing capital base of \$1587.8 million (\$nominal) as at 31 December 2017. Table 5.6 sets out the projected roll forward of the capital base during the 2013–17 access arrangement period.

Table 5.6 AER's draft decision on projected capital base roll forward for the 2013–17 access arrangement period (\$million, nominal)

	2013	2014	2015	2016	2017
Opening capital base	1,261.6	1,339.8	1,413.7	1,478.6	1,533.4
Net capex	95.0	94.9	90.5	83.7	87.4
Less: depreciation	48.4	54.6	60.9	66.0	71.3
Indexation	31.5	33.5	35.3	37.0	38.3
Closing capital base	1,339.8	1,413.7	1,478.6	1,533.4	1,587.8

Source: AER analysis.

5.2 Summary of analysis and reasons

The AER approves some aspects of SP AusNet's proposal for the opening capital base as at 1 January 2013 including:

- To use the opening capital base at 1 January 2007 as the basis from which to roll forward the capital base (it being consistent with that adopted in the ESC's final decision for the 2008–2012 access arrangement period).
- The use of forecast depreciation for the 2008–12 access arrangement period as approved by the ESC.

However, the AER considers that a number of SP AusNet's proposed inputs into the capital base roll forward model overstate the value of the opening capital base as at 1 January 2013 and consequently, the projected closing capital base as at 31 December 2017. In particular, the AER does not agree with SP AusNet's approach in the following areas:

- SP AusNet's proposed inflation of the capital base would result in six months of unnecessary additional CPI adjustment. This would overstate the value of the opening capital base as at 1 January 2013. In addition, by applying six months of additional inflation, SP AusNet's proposal creates an inconsistency between inflation applied to tariffs and inflation applied to the capital base. Hence, the AER's draft decision is to adjust the opening capital base for six years of inflation, rather than six and a half years of inflation.
- SP AusNet's 2008–12 access arrangement included a capex incentive scheme. However, in updating its 2012 capex SP AusNet only partially applied the ESC's capex incentive scheme. To make 2012 capex consistent with the ESC's capex incentive scheme the AER has replaced SP AusNet's mix of actual and estimated 2012 capex with benchmark (forecast) 2012 capex adjusted for actual growth.
- SP AusNet's capex proposal included movements in provision accounts which are capitalised cash flows that are set aside for paying future liabilities. Conforming capex should reflect actual expenditures for the 2008–11 period and not capitalised amounts set aside for future expenditures. Hence, movements in provision accounts should not be included in the capital base.
- SP AusNet's initial conforming net capex amounts were for some years inconsistent with its audited historical regulatory accounts.⁴² The AER has made several minor amendments to SP AusNet's proposed capex for the 2008–11 period to correct for these discrepancies.
- The draft decision on forecast capex and depreciation form inputs into the roll forward for the projected capital base for the 2013–17 access arrangement period. These need to be adopted in place of SP AusNet's proposed forecast capex and depreciation. See chapter 6 and 8 and attachments 3 and 5 for more on the AER's draft decision on these matters.

These adjustments add up to a \$31 million reduction to SP AusNet's proposed opening capital base at 1 January 2013. The AER's draft decision is an opening capital base of \$1261.6 million (\$nominal) as at 1 January 2013. Based on this, and the AER's draft decisions on forecast capex, depreciation, and inflation, the AER has determined a projected closing capital base of \$1587.8 million (\$nominal) as at 31 December 2017. See attachment 2 for more on the AER's draft decision on the capital base and reasons for this.

⁴² The AER identified these discrepancies with SP AusNet, who provided a revised roll forward model to reconcile the values: SP Ausnet, *Response to AER information request 10 regarding the reconciliation of 2007-2011 proposal capex with SP AusNet's audited regulatory accounts*, 19 June 2012.

6 Capital expenditure

Forecast capital expenditure (capex) is a forecast of the cost of new assets that are likely to be required by a network business during an access arrangement period for the efficient operation of the network. As well as assessing forecast capex, the AER reviews actual capex undertaken during the previous access arrangement period. The final approved level of capex is used in conjunction with the opening capital base, rate of return and depreciation as an input in the return on capital building block.

Capex is broken down into several categories:

- augmentation capex – assets that expand the capacity of the network or provide connections to new customers
- refurbishment and upgrade capex – used to replace or upgrade aging, obsolete or inefficient assets
- non-network capex – including IT, plant and equipment, motor vehicles and buildings.

An efficient network business will require one or more of these categories of capex during an access arrangement period. Factors that will influence the required level of capex include the age and condition of existing assets, changes in the number of customers connected to the network, changes in the demand profile of customers, and general "stay in business" requirements of the business.

The AER assesses the capex forecasts of regulated gas network businesses to determine whether they conform to the criteria set out within the NGR. In particular, the forecast capex must:

- be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances
- be expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of providing pipeline services
- be shown that one of the following criteria is met:
 - the capex has a positive economic value
 - the expected present value of the incremental revenue exceeds the expenditure
 - the capex is necessary to either:
 - maintain and improve the safety of services
 - maintain the integrity of services
 - comply with a regulatory obligation or requirement
 - maintain capacity to meet levels of demand existing at the time the capex is incurred
 - the capex is justifiable as a combination of the preceding two dot points.

SP AusNet proposed a total forecast capex of \$528.5 million (\$2012) for the 2013–17 access arrangement period. The AER must accept SP AusNet's forecast capex if it is satisfied that it is conforming capex as specified in the NGR.⁴³

In assessing SP AusNet's proposed capex for both the previous and upcoming regulatory access arrangement periods, the AER reviewed SP AusNet's proposal and supporting material. This included information on SP AusNet's reasoning and, where relevant, business cases, audited regulatory accounts, and other relevant information. In addition, the AER engaged consultants to review aspects of SP AusNet's capex proposals.

The full draft decision and the AER's detailed reasons and analysis on capital expenditure can be found in attachment 3.

6.1 Draft decision

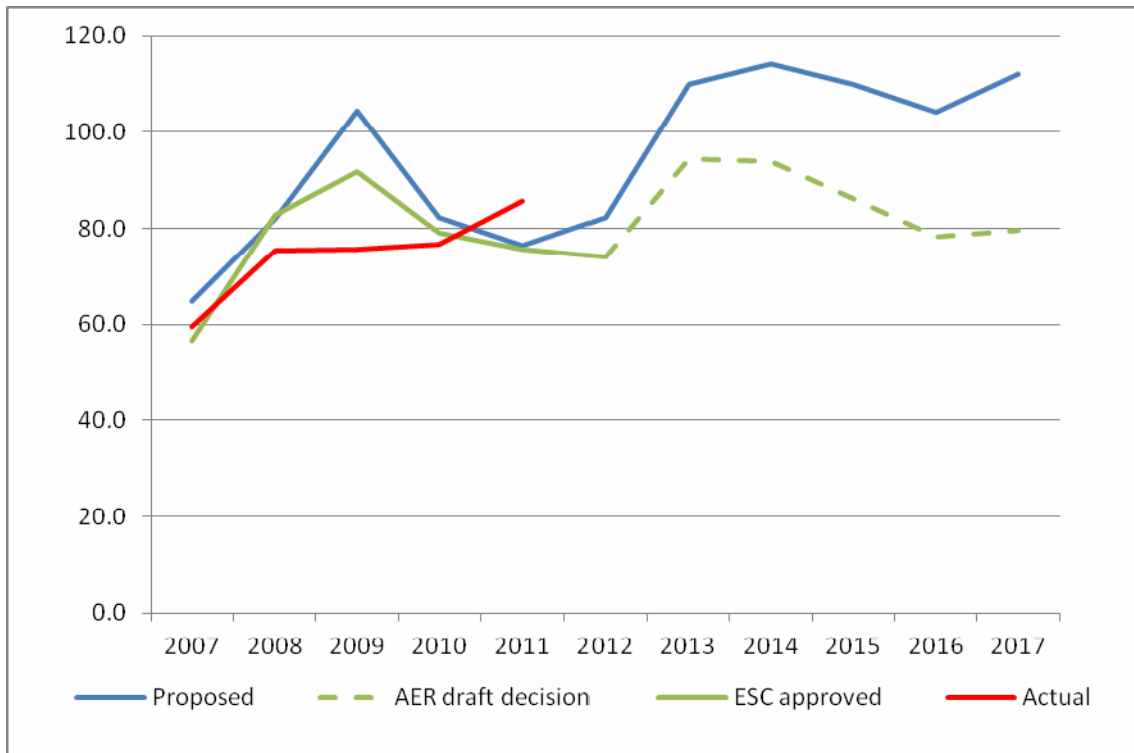
The AER's draft decision is to approve SP AusNet's proposed \$354.7 million (\$2012) total net capex for 2007–2011 as conforming capex for the purpose of setting the capital base for 2007–11 (see chapter 5 and attachment 2).

For the 2013–17 access arrangement period, the AER's draft decision is to approve \$411.0 million (\$2012) of SP AusNet's proposed \$528.5 million (\$2012) total capex.

Figure 6.1 shows actual and ESC approved capex for 2008–11 and SP AusNet's proposed capex and the AER's draft decision on capex for 2012–17.

⁴³ NGR, r. 40.

Figure 6.1 Comparison of SP AusNet’s past and forecast total capex and AER draft decision (\$million, 2012)



Source: AER analysis.

Table 6.1 is a comparison of SP AusNet's proposed capex and the AER's draft decision on capex for the 2013–17 access arrangement period by category.

Table 6.7 Comparison of SP AusNet proposed and AER draft decision on capex including labour cost escalation adjustment over the 2013–17 access arrangement period (\$million, 2012)

	SP AusNet proposed	AER draft decision	Difference
Mains replacement	141.1	68.6	-51.4%
Residential connections	182.7	165.1	-9.6%
Commercial/industrial connections	19.7	15.6	-20.7%
Residential meter replacement	23.7	22.8	-3.6%
Commercial/industrial meter replacement	5.2	5.0	-4.3%
Augmentation	23.1	22.0	-4.9%
IT	55.3	48.6	-12.1%
SCADA	4.5	4.2	-5.0%
Other	24.4	19.9	-18.6%
Gas Extensions-NGEP	2.8	2.8	0.0%
Capital overheads	68.2	57.9	-15.1%
Total gross capital expenditure	550.8	432.6	-21.4%
Customer contributions	15.5	14.9	-3.6%
Government contributions	6.8	6.8	0.0%
Total net capital expenditure	528.5	411.0	-22.2%

Source: AER analysis

6.2 Summary of analysis and reasons

While the AER has accepted a number of SP AusNet's capex proposals, it has made some amendments. The main amendments are in the categories of mains replacements, residential and commercial/industrial connections, IT and capital overheads.

Mains replacements

Distribution mains are the pipes that convey gas to service pipes at each end user point. SP AusNet proposed mains replacement capital expenditure of \$141.1 million (\$2012, escalated direct costs) for five categories of mains replacement programs. The AER's draft decision is to make amendments to four of these five programs as follows.

- Low pressure (LP) mains replacement—the AER draft decision is to approve SP AusNet’s proposed unit costs but to reduce the scale of works proposed. The AER proposes to use historic volumes delivered over the 2008–11 period to set the scale of works. The AER considers that this level of works reflects a robust benchmark for what a prudent and efficient service provider would undertake. However, to allow for changing circumstances, the AER proposes to allow for a pass through event to apply, where the trigger event is the completion of approved volumes.
- Miscellaneous allowance for LP mains replacement—this is approved on a reduced scale. SP AusNet used the 2007–08 to 2011–12 historical average of volumes to forecast annual volumes for the next regulatory period. However, to determine the unit rate, SP AusNet excluded the unit rates for two projects with low unit rates (and high volumes). It then took a weighted average to derive a forecast unit rate. This means that the volume and unit rates were not estimated on a consistent basis. Instead, the draft decision is that average volume and unit rate forecasts should be calculated on the same basis by excluding the two unrepresentative projects from the calculation.
- Medium pressure (MP) mains replacement—the medium pressure mains replacement program is not approved. It is the AER’s view that it is not necessary nor efficient and prudent for SP AusNet to have a program to replace medium pressure distribution mains in the 2013–2017 access arrangement period. In particular, this program would result in some like for like replacements which would be inefficient.
- Minor specific replacement program—the minor specific mains replacement program is not approved as the AER does not consider it to be necessary or efficient and prudent to proactively replace these types of distribution mains. In particular, SP AusNet’s proposal does not specify how it would identify these mains and does not demonstrate why the risks associated with these materials warrant a proactive rather than reactive replacement program.
- Reactive mains and services replacement program—the AER considers an allowance for reactive mains and services replacement is justifiable in order to maintain the safety and integrity of services.⁴⁴ However, the AER’s draft decision is to reduce the scale of the program to the average annual number of services renewed over the 2008–11 period.

These amendments result in a 51 per cent reduction SP AusNet’s proposed mains replacement capex (from \$141.1 million to \$68.6 million).

Tariff V residential and commercial/industrial connections

Customer connections are based on gross connections. For capex purposes, this is equal to net connections (customers at 31 December less customers at 1 January) plus gross customer disconnections (abolishments⁴⁵ plus disconnections) less customer reconnections (which are connections which don’t require capital works). To estimate tariff V residential and commercial/industrial⁴⁶ connections, SP AusNet proposed that abolishment volumes be based on a trend of the ratio of abolishments to opening customer numbers over 2006–11. However, the weight of evidence suggests that growth in abolishments is likely to soften over the 2013–17 access arrangement period (due to slower economic growth and other factors). The AER’s alternative forecasting method is to take an annual average of the number of abolishments over the 2007–11 period and project this forward. In addition, the AER’s draft decision is to remove the proposed

⁴⁴ NGR, r. 79(2)(c)(i)-(ii).

⁴⁵ That is, houses and premises that are knocked down and lost to the system.

⁴⁶ Tariff V class customer connections are residential and commercial/industrial customers who consume less than 10 TJ/year.

contingency allowance on Tariff V residential and commercial/industrial connections unit rates. SP AusNet has not explained why this expenditure is necessary nor adequately justified the amount proposed.

IT

The AER engaged Nous Group to assess the prudence and efficiency of SP AusNet's IT programs. Using this advice, the AER's draft decision is to:

- reduce the proposed contingency allowance to accord with industry standards
- reduce the labour component of several IT programs so as to reflect an efficient level.

In addition, the AER's draft decision is to remove all NECF-related costs as there is still uncertainty over when the NECF will be introduced.

Labour and materials cost escalators

The AER is not satisfied SP AusNet's proposed labour and material cost escalators were arrived at on a reasonable basis or represent the best possible forecast of labour and material costs over the 2013–2017 access arrangement period.⁴⁷ Instead, the AER considers forecast annual increases in the labour price index (LPI) should be used to forecast labour costs and the consumer price index (CPI) should be used to forecast network materials prices. Appendix C contains the AER's consideration of the real cost escalators proposed by SP AusNet.

Other

The AER's draft decision also includes revisions in the following categories of capex:

- Certain projects in "Other non-demand" capex are not approved. Reasons for this include that the expenditure does not meet the definition of capex, the forecast was not arrived at on a reasonable basis or such projects would not be undertaken by a prudent and efficient service provider.
- The level of overheads is reduced to align better with historic levels of capital overheads.
- Contributions associated with the customer connections program are scaled back in proportion to the connections adjustment discussed above in relation to tariff V residential and commercial/industrial customer connections.

All of the above taken together results in a 22 per cent reduction to SP AusNet's proposed capex (from \$528.5 million to \$411.0 million). See attachment 3 for more on the AER's draft decision on forecast capex and reasons for this.

⁴⁷ Appendix D contains the AER's more detailed consideration of the real cost escalators proposed by SP AusNet.

7 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.⁴⁸

SP AusNet's return on capital building block is calculated by multiplying the rate of return with the value of SP AusNet's capital base. Consistent with SP AusNet's 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 4, with additional reasons on some matters set out in appendix B.

7.1 Draft decision

The AER does not approve SP AusNet's proposed (indicative) rate of return of 9.06 per cent. The AER withholds its approval because, in the AER's opinion, 7.16 per cent (subject to updating) is a preferable alternative that is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.⁴⁹

SP AusNet's proposed rate of 9.06 per cent is based on market data from November–December 2011. The AER's draft decision rate of 7.16 per cent is based on market data from July–August 2012. SP AusNet's proposed rate of return method, if also applied to market data from July–August 2011, would result in a proposed rate of 8.40 per cent.

Both SP AusNet's proposed rate of return method, and the AER's method in this draft decision, will be updated using market data for the risk free rate and debt risk premium (DRP) updated closer to the time of the final decision. The AER's draft decision method involves updating the risk free rate used in both the cost of equity and cost of debt. SP AusNet's proposed method involves only updating the risk free rate used in the cost of debt.

The AER considers a 7.16 per cent rate of return (subject to updating) provides SP AusNet with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects SP AusNet will be able to attract funds to support the efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers.

The AER agrees with the following aspects of SP AusNet's proposed rate of return method:

- 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

⁴⁸ NGR, r. 87.

⁴⁹ The AER's adoption of this rate is subject to the risk free rate and debt risk premium parameters being updated closer to the date of the final decision.

- adopting a market risk premium (MRP) of 6 per cent
- adopting an equity beta of 0.8
- specifying the cost of debt as the debt risk premium over the risk free rate
- determining the debt risk premium 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 seven year fair value curve
- extrapolating the Bloomberg BBB rated seven year fair value curve to a 10 year maturity (consistent with the definition of the benchmark bond) using paired bond analysis⁵⁰
- adopting a 60 per cent gearing ratio
- adopting the inflation forecasting method based on short term Reserve Bank of Australia (RBA) forecasts and the mid-point of the RBA's inflation targeting band.

But the AER does not agree with the following aspect of SP AusNet's proposal:

- adopting a long term historical average risk free rate in the cost of equity. Rather, the AER adopts a short term averaging period sampled as close as practicably possible to the commencement of the access arrangement period, as explained in section 7.2.1.

Table 7.8 sets out the individual WACC parameters and consequent (indicative) rate of return determined by the AER.

⁵⁰ The AER agrees with SP AusNet's proposed paired bonds extrapolation method, including the selection criteria to choose the paired bonds. However, SP AusNet appears to have incorrectly applied the selection criteria in its proposal. Accordingly, the AER has corrected this error in applying SP AusNet's proposed paired bonds extrapolation method.

Table 7.8 AER's draft decision on SP AusNet's rate of return (nominal)

Parameter	SP AusNet proposal	AER draft decision
Nominal risk free rate (cost of equity)	5.99%	2.98% ^a
Nominal risk free rate (cost of debt)	3.99% ^a	2.98% ^a
Equity beta	0.8	0.8
Market risk premium	6%	6%
Debt risk premium	3.92% ^a	3.76% ^a
Gearing level	60%	60%
Inflation forecast	2.5% ^a	2.5% ^a
Gamma	0.25	0.25
Nominal post-tax cost of equity	10.79% ^a	7.78% ^a
Nominal pre-tax cost of debt	7.91% ^a	6.74% ^a
Nominal vanilla WACC	9.06% ^a	7.16% ^a

Source: ACCC decision; SP AusNet, *Access arrangement proposal*, March 2012 and AER analysis.

(a) Indicative only. The risk free rate, debt risk premium and inflation forecast will be updated closer to the date of the final decision.

7.2 Reasons for draft decision

In forming this draft decision, the AER has considered an extensive range of material on the rate of return. This includes SP AusNet's access arrangement proposal, the other Victorian gas service providers' proposals, and the submissions into these reviews from users. The AER has also sought a range of expert advice to assist in making these decisions—from the RBA, Treasury, AOFM, Professor McKenzie, Associate Professor Partington and Associate Professor Lally.

In this review, SP AusNet, proposed a 6 per cent MRP but adopted a long run historical average risk free rate (5.99 per cent) for the cost of equity because it considered the AER's approach to the cost of equity in previous decisions resulted in a cost of equity that is too low in current market conditions. The other Victorian gas distribution service providers also proposed this approach. APA GasNet held a similar concern but proposed a different approach. APA GasNet proposed a higher MRP (8.5 per cent).

On the other hand, BHP Billiton submitted that the MRP is between 5-6 per cent. The Energy Users Coalition of Victoria (EUCV) considered the AER should adopt a 5 year term for the risk free rate and an equity beta of 0.65. The 5 year term and 0.65 equity beta were adopted by the ERA in its access arrangement decision for the Dampier to Bunbury Natural Gas Pipeline (DBNGP). The Tribunal found no error in ERA's position on these matters. Incorporating any of the changes proposed by users to the term, equity beta or MRP would result in a lower cost of equity than applying the AER's approach from previous decisions.

In this draft decision, the AER has maintained its cost of equity approach of adopting a prevailing risk free rate (currently 2.98 per cent), an equity beta of 0.8 and a 6 per cent MRP.

In this review, SP AusNet proposed adopting the extrapolated Bloomberg fair value curve to estimate the DRP.⁵¹ This results in a DRP of 3.82 based on current market data.⁵² The other Victorian gas service providers also proposed this approach.⁵³ BHP Billiton considered this method was appropriate but also considered there was merit in the AER exploring alternative methods.⁵⁴

On the other hand, the EUCV considered the DRP should be no more than 195 basis points above the risk free rate (based on a 5 year term).⁵⁵ The EUCV noted this resulted in a DRP similar to the ERA's approach.

In the ATCO and DBNGP matters, the Tribunal upheld the use of the 'bond yield' approach adopted by the ERA.⁵⁶ Under this approach the DRP is estimated by averaging observed bond yields that meet certain criteria.⁵⁷ The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.⁵⁸ The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.⁵⁹ Such a weighted average was implemented by the ERA on remittal.⁶⁰ If the bond-yield approach (with the weighting method adopted in the ERA's re-determination) was applied to SP AusNet, the DRP would be 2.72 per cent.⁶¹

Consistent with the AER's observations previously, the AER considers that the Bloomberg fair value curve continues to provide DRP estimates which are higher than other potential approaches (such as the ERA's approach). The Bloomberg fair value curve also provides estimates which are high in comparison to recent bond issuances from firms with similar characteristics to the benchmark firm. For these reasons, the AER has commenced an internal review into alternatives to the Bloomberg fair value curve. The AER will advise of a public consultation process on the development of an alternative in due course. However, the AER does not expect to implement any new method in time for SP AusNet's forthcoming access arrangement period. This follows the Tribunal's previous

⁵¹ SP AusNet, *Access arrangement submission: Part A*, 30 March 2012.

⁵² This estimate reflects the paired bonds sample proposed by SP AusNet.

⁵³ Envestra, *Access arrangement information*, 30 March 2012; APA GasNet, *Access arrangement submission*, 31 March 2012; Multinet, *Access arrangement information*, 30 March 2012.

⁵⁴ BHP Billiton, *Submission to the AER: APA GasNet access arrangement proposal*, 29 June 2012, p. 17.

⁵⁵ EUCV, *Submission to the AER: APA GasNet access arrangement proposal*, 18 June 2012, p. 50.

⁵⁶ 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.

⁵⁷ Specifically, all bonds (sourced from Bloomberg) were from Australian companies, denominated in Australian dollars and issued in Australia. Further, bonds could be either fixed or floating and either bullet, callable or putable. Different scenarios used other slightly different criteria, such as a minimum term (two or five years), and a range of credit ratings (BBB-/BBB/BBB+ or BBB/BBB+).

⁵⁸ 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.

⁵⁹ 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 two 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.

⁶⁰ ERA, *Revised decision, Access arrangement revisions for the Mid-West and South-West Gas Distribution System*, 25 June 2012, pp. 5–12.

⁶¹ Based on SP AusNet's indicative averaging period, this 'bond-yield approach' estimate incorporates 60 bonds with an average term to maturity of 5.94 years.

comments on the consultation approach that should be adopted in the development of any new approach.⁶²

In this draft decision, the AER has maintained adoption of the extrapolated Bloomberg BBB rated fair value curve. This currently provides a cost of debt of 6.74 per cent, or DRP of 3.76 per cent.⁶³

Taking SP AusNet's proposal and the submissions from stakeholders together, the AER is satisfied that the rate of return in this draft decision (subject to updating) is commensurate with prevailing conditions in the market for funds and the risks involved with providing reference services.

7.2.1 Risk free rate

The AER does not agree with SP AusNet's proposed method for estimating the risk free rate used in the cost of equity.

The risk free rate calculated using the method determined in this draft decision is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. This method involves estimating the risk free rate by reference to the yield on 10 year CGS bonds sampled over a period as close as practicably possible to the commencement of the access arrangement period.

The AER considers 10 year CGS yields are the most appropriate proxy for the risk free rate because:

- CGS are low risk
- the CGS market is liquid and functioning well, as confirmed by advice from the Reserve Bank of Australia (RBA), the Australian Treasury and the Australian Office of Financial Management (AOFM)⁶⁴
- the RBA advised 'CGS yields are the most appropriate measure of a risk free rate in Australia'.⁶⁵

The AER and SP AusNet agree on the proxy for the risk free rate.

However, SP AusNet proposed the risk free rate be calculated using a historical averaging period over the last 20 years. In contrast, the AER considers the most appropriate averaging period for determining the risk free rate is a short period (10-40 business days), as close as practicably possible to the commencement of the regulatory period, because:

- at any point in time, the prevailing risk free rate is the benchmark that the expected return on a risky investment must exceed (by a magnitude equal to the risk premium for the risky investment)
- prevailing 10 year CGS yields reflect the risk free rate over the appropriate forward looking investment horizon (which is 10 years)

⁶² 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.

⁶³ This estimate reflects an adjustment to SP AusNet's proposed extrapolation approach. This adjustment is discussed in detail in attachment 4 of this draft decision.

⁶⁴ Australian Treasury and Australian Office of Financial Management, *The Commonwealth Government Securities Market*, July 2012.

⁶⁵ Reserve Bank of Australia, *The Commonwealth Government Securities Market*, July 2012.

- CGS yields are market determined—that is, prevailing CGS yields reflect the return that investors are willing to receive in current market conditions on an investment that is almost default risk free
- this approach promotes the regulatory objective that the present value of a service provider's expected revenue should match the present value of a service provider's expected expenditure (plus or minus any efficiency rewards or penalties)
- the use of prevailing CGS yields is consistent with the use of the building block model because this model is designed to uphold the present value principle, as advised by Associate Professor Lally
- the use of prevailing CGS yields is consistent with the use of the CAPM. In the ActewAGL matter, both the expert for the AER (Associate Professor Lally) and the expert for the service provider (Greg Houston) agreed on this point.⁶⁶
- this approach provides an unbiased method for determining the risk free rate
- advice from Professor McKenzie and Associate Professor Partington, and from Associate Professor Lally supported the use of a prevailing risk free rate.⁶⁷

The AER recognises CGS yields are at historical lows, but that fact does not invalidate any of the above reasons. The current historically low CGS yields reflect what would be expected of a well functioning risk free rate proxy in current demand and supply conditions.⁶⁸ In the Telstra matter, the Tribunal stated:

...it is not unusual for yields to move from time to time in order to reflect prevailing market conditions and the expectations about the prospect for prices into the future.⁶⁹

See attachment 4 for more on the AER's draft decision on the rate of return and reasons for its decision.

⁶⁶ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 148.

⁶⁷ McKenzie, M. and G. Partington, G., Supplementary report on the market risk premium, 22 February 2012, pp. 11–12; Lally, M., The risk free rate and the present value principle, 22 August 2012, p. 3.

⁶⁸ The Treasury and AOFM advice indicates that the movement in the Australian yield curve reflects a range of factors, including the changed stance of monetary policy and global financial market instability. Australian Treasury and Australian Office of Financial Management, *The Commonwealth Government Securities Market*, July 2012.

⁶⁹ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 417.

8 Regulatory depreciation

Regulatory depreciation models the nominal value of SP AusNet's assets over the 2013–17 access arrangement period. It is used to determine the depreciation allowance in SP AusNet's total revenue requirement under the building block model. SP AusNet's annual regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

As part of its proposed access arrangement SP AusNet is required to provide a forecast of depreciation for the 2013–17 access arrangement period, setting out a depreciation method and demonstrating how the depreciation method has been applied. The depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff.

The AER then assesses whether the proposed depreciation schedule complies with the depreciation criteria set out within the NGR. In particular, the depreciation schedule should be designed:

- so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services⁷⁰
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets⁷¹
- so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets⁷²
- so that (subject to the rules about capital redundancy), an asset is depreciated only once⁷³
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.⁷⁴

Compliance with these criteria may involve the deferral of a substantial amount of depreciation.

The AER must also take into account the depreciation schedule approved in the 2008–12 access arrangement period⁷⁵, the NGO and the revenue and pricing principles.⁷⁶

The full draft decision and the AER's detailed reasons and analysis on regulatory depreciation are in attachment 5.

⁷⁰ NGR, r. 89(1)(a).

⁷¹ NGR, r. 89(1)(b).

⁷² NGR, r. 89(1)(c).

⁷³ NGR, r. 89(1)(d).

⁷⁴ NGR, r. 89(1)(e).

⁷⁵ NGR, schedule 1, r. 5(1)(d).

⁷⁶ NGL, s 28; NGR r. 100(1). The NGO is set out in NGL, s. 23. The revenue and pricing principles are set out in NGL, s. 24.

8.1 Draft decision

The AER's draft decision on SP AusNet's total regulatory depreciation allowance over the 2013–17 access arrangement period is \$125.5 million (\$nominal) as shown in table 8.9. This represents a reduction of \$22.3 million (\$nominal) or 15.1 per cent of SP AusNet's proposed total regulatory depreciation allowance.

Table 8.9 AER's draft decision on SP AusNet's depreciation allowance (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	48.4	54.6	60.9	66.0	71.3	301.1
Less: indexation on opening capital base	31.5	33.5	35.3	37.0	38.3	175.7
Regulatory depreciation	16.9	21.1	25.5	29.0	33.0	125.5

Source: AER analysis.

8.2 Summary of analysis and reasons

The AER does not approve SP AusNet's proposed regulatory depreciation allowance of \$147.8 million (\$nominal) for the 2013–17 access arrangement period. The AER's draft decision is to make amendments in the following areas:

- SP AusNet's unrecovered depreciation represents the difference between actual depreciation and forecast depreciation allowed by the ESC over the last 15 years (1998 to 2012). SP AusNet proposed to recover its full amount of unrecovered depreciation over the 2013–17 period. In calculating its proposed unrecovered depreciation, SP AusNet made several modelling errors which the draft decision amends. The draft decision also amends the period across which the unrecovered depreciation is to be recovered. Depreciation is usually recovered over the expected economic life of an asset. Instead of recovering the full unrecovered depreciation over the 2013–17 period, the AER considers it should be recovered over 54.1 years to reflect a weighted average life of the distribution pipelines capex to which the unrecovered depreciation relates. However, this becomes irrelevant if depreciation is modelled using the AER's standard approach. This is because the unrecovered depreciation amount would be picked up in the opening values of the capital base as at 1 January 2013 and would be depreciated over the remaining economic lives of the relevant asset classes.
- The AER considers that the 'Land & buildings' asset class should be split into two separate 'Land' and 'Buildings' asset classes from 1 January 2013 to reflect their different depreciation treatment. In terms of economic life, the AER considers that the 'Buildings' asset class should be assigned a standard economic life of 40 years⁷⁷ whereas the 'Land' asset class should not be assigned a standard economic life reflecting the non-depreciating nature of the asset.
- The AER identified a number of errors in the way SP AusNet calculated depreciation for existing assets. These include the unrecovered depreciation issue discussed above; consistency issues in

⁷⁷ This is consistent with the standard economic life approved by the ESC for 2008–12. See ESC, *SP AusNet GAAR 2008 Revenue Model Further Final Decision*, 2008.

individual numbers between the RFM and PTRM; not deducting disposals for the depreciation calculations; and not allowing for the potential for negative net capex. As a result of these errors, the AER considers that SP AusNet's proposed depreciation calculation for existing assets is not arrived at on a reasonable basis nor does it produce the best forecast or estimate possible in the circumstances as required by the NGR.⁷⁸ The AER's adjustment corrects the errors made in SP AusNet's depreciation calculations, and allows the remaining economic lives as at 1 January 2013 to be calculated in the PTRM for depreciating existing assets in the opening capital base.

See attachment 5 for more on the AER's draft decision on depreciation and reasons for its decision.

⁷⁸ NGR, rr. 74(2)(a) and 74(2)(b).

9 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital costs incurred in the provision of reference services.⁷⁹ Opex incorporates labour costs and other non-capital costs associated with providing reference services.

The AER is required to assess SP AusNet's forecast opex to decide whether it is satisfied that the forecast opex complies with applicable criteria prescribed by the NGL and NGR. In particular, opex 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 delivering pipeline services. In addition, opex forecasts must be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.⁸⁰

The regulatory regime provides incentives for SP AusNet to deliver its required services at least cost. In particular, if SP AusNet is able to provide its services at a lower cost than what was forecast in its access arrangement, it is able to 'keep the difference' for a period of five years as provided under its opex incentive mechanism (see chapter 10). Given these incentives, actual opex can be used to effectively reveal the efficient level of opex required in providing reference services. This means that rather than assess all aspects of opex the AER can instead focus on what changes need to be made to this base level of opex. In particular, once the base year is set, the AER only assesses the following adjustments:

- Annual cost trends, to account for forecast labour and material cost changes, output growth and partial productivity growth.
- Step changes, to provide an additional opex allowance where a certain circumstance, requirement or project will require the business to undertake expenditure that is not incorporated in the base year.

SP AusNet proposed an opex forecast based on a base year roll forward methodology setting 2011 as the base year. It then proposed cost trends and step changes to provide for year on year adjustments to this base level of opex.

The full draft decision and the AER's detailed reasons and analysis on operating expenditure can be found in attachment 6.

9.1 Draft decision

The AER's draft decision is to approve \$237.5 million (\$2012) of SP AusNet's \$272.6 million (\$2012) forecast of opex for the 2013–17 access arrangement period. This reduction of approximately \$35.0 million (\$2012) reflects the AER view that a number of elements of SP AusNet's forecast opex do not comply with the criteria governing opex or the criteria for forecasts and estimates.⁸¹ This is discussed in more detail in the following section.

⁷⁹ NGR, r. 69.

⁸⁰ NGR, r. 74.

⁸¹ NGR, r. 91, r. 71

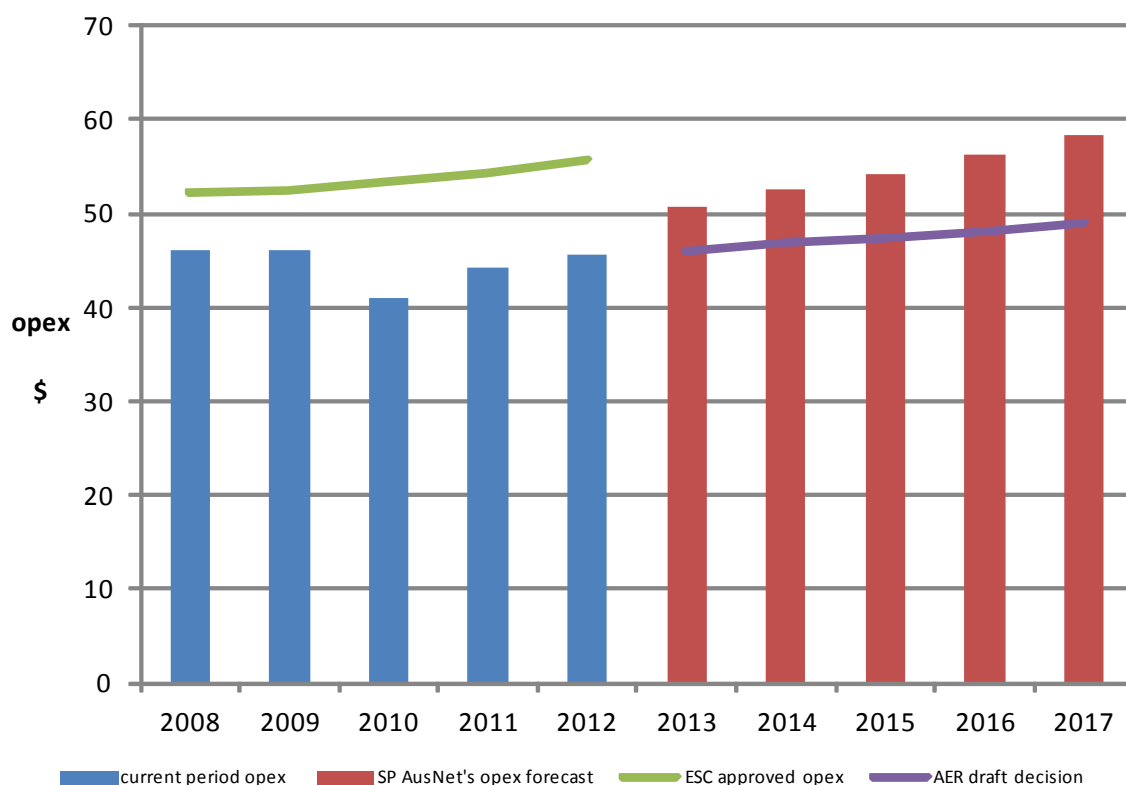
Table 9.10 shows how SP AusNet's proposed opex compares with the AER's draft decision on opex. Figure 9.1 shows how the AER's draft decision for opex compares to SP AusNet's proposal, its opex in the 2008–12 access arrangement period, and the opex approved by the ESC for this period. In the 2008–12 access arrangement period, SP AusNet's actual opex has been on average 16.8 per cent lower than the ESC approved opex. SP AusNet's proposed total opex represents a 22 per cent real increase on actual expenditure in the current period.⁸²

Table 9.10 SP AusNet proposed and approved opex (\$million, 2012)

	2013	2014	2015	2016	2017	Total
SP AusNet's proposal	50.8	52.7	54.3	56.4	58.4	272.6
AER's draft decision	45.9	46.9	47.5	48.2	49.0	237.5
Difference	-4.9	-5.8	-6.8	-8.2	-9.4	-35.0

Source: AER analysis

Figure 9.1 SP AusNet's total proposed and approved opex (\$m, \$2012)



Source: SP AusNet's RIN submission. Note that figures from 2011 onwards are forecasts.

⁸² SP AusNet Access arrangement submission, March 2012, table 6-1 and AER analysis.

9.2 Summary of analysis and reasons

Table 9.2 shows the factors driving opex and differences between SP AusNet's proposed opex and the AER's draft decision on opex for the total 2013–17 access arrangement period.

Table 9.11 SP AusNet's proposed and AER's draft decision on opex (\$million, 2012)

	SP AusNet proposal	AER draft decision	Difference
Base year costs	223.6	218.4	-5.3
Labour cost escalation	18.5	5.1	-13.4
Materials cost escalation	0.2	0.0	-0.2
Output growth	11.4	11.2	-0.3
Partial productivity	-5.0	-4.9	0.1
Step changes (inc. debt raising costs)	23.8	7.8	-16.0
Total	272.6	237.5	-35.0

Source: AER analysis

As can be seen from Table 9.2, the main differences between SP AusNet's proposed opex and the AER's draft decision on opex relate to step changes and differences in the labour cost escalation. These and other differences are discussed below.

9.2.2 Base year costs

SP AusNet proposed four adjustments to its base year costs. The draft decision is to accept two of these. The major amendment is to maintenance costs in the base year. SP AusNet proposed an adjustment of \$1.2 million per year to account for 2011 being a below average year for maintenance costs. The AER does not accept SP AusNet's proposal for the following reasons:

- In any one year there are likely to be some costs that are higher than business-as-usual and some costs that are lower than business-as-usual. While SP AusNet's maintenance opex might have been lower in 2011 it is likely that other categories of opex were higher. As there are many factors that influence actual opex in any one year in both directions, the AER considers a forecast of total opex is more likely to include estimation errors if a forecast is not reflective of all opex incurred a calendar year.
- To the extent that any costs were lower (higher) than average in 2011, SP AusNet will be rewarded (penalised) for this through its opex incentive mechanism. In other words, SP AusNet will retain any cost reductions (increases) in 2011 for a five year period. To then adjust the base year would lead to over (under) compensation.

9.2.3 Labour and material cost escalators

The AER is not satisfied SP AusNet's proposed labour and material cost escalators were arrived at on a reasonable basis or represent the best possible forecast of labour and material costs over the

2013–17 access arrangement period.⁸³ The AER considers forecast annual increases in the labour price index (LPI), as forecast by Deloitte Access Economics represent the best possible forecast of labour costs over the 2013–17 access arrangement period. The AER considers that the consumer price index (CPI) represents the best possible forecast of network materials prices. Appendix C contains the AER’s consideration of the real cost escalators proposed by SP AusNet.

9.2.4 Step changes

Step changes allow for additional funding where the service provider faces a new requirement or change in circumstance requiring it to undertake additional expenditure that was not accounted for in the base year level of opex. Examples of step changes include new safety regulations requiring additional opex on an ongoing basis, opex related to a new capital project or other new legislative requirements. In assessing SP AusNet’s proposed step changes the AER has considered whether these are consistent with that which would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services. Where the AER considers these step changes meet this requirement an incremental increase in base year opex is included in total forecast opex.

In general, the AER considers an increase in opex is not consistent with the above requirement where the additional expenditure is intended to comply with a regulatory requirement or industry standard that has not changed since the 2008–12 access arrangement period. In such cases, it is the AER’s view that such expenditure would already be included in base opex for a prudent service provider acting in accordance with accepted good industry practice to achieve the lowest sustainable cost of delivering pipeline services.

In some cases, a program of expenditure may be consistent with the above requirement but might not justify an incremental increase in the total opex allowance as it should already be covered in the base level of opex. For instance, if a program of expenditure is intended to improve productivity, the AER would generally consider that there is sufficient expenditure in the base opex in order to fund the program.

The AER’s assessment of proposed step changes also recognises that a service provider’s opex program will not be exactly the same from year to year. For example, actual opex in the base year reflects both recurrent expenditure and non-recurrent expenditure. That is, some of the expenditure will be ongoing while some will be related to one-off occurrences. When forecasting opex for the 2013–17 access arrangement the AER has not sought to estimate all non-recurrent (or one-off) expenditure incurred in the base year. In this way, the base year will inevitably include some opex that will not be undertaken in all other years.

Given this, the AER does not automatically consider there should be a step change in opex solely because a program of expenditure was not undertaken in the base year but needs to be undertaken in the 2013–17 access arrangement period. Instead, the AER considers on case by case basis whether base year opex would be likely to be sufficient in order to fund the proposed program of opex or whether a step up in opex is required. This avoids potential asymmetries that would occur if all additional opex requirements for the 2013–17 access arrangement were included as step changes without subtracting any one-off or non-recurrent opex that is inevitably included in the base year.

⁸³ Appendix D contains the AER’s more detailed consideration of the real cost escalators proposed by SP AusNet.

In considering the above, the AER made a number of revisions to SP AusNet's proposed step changes. These adjustments lead to SP AusNet's proposed step change related opex being reduced from \$23.8 million to \$7.8 million.

9.2.5 Output growth

If demand for reference services is growing, this could be expected to lead to network growth and increased opex, all other things being equal. In its opex proposal, SP AusNet accounted for network growth through the application of an output growth escalator. While the AER accepts SP AusNet's general methodology for calculating the output growth escalator it does not agree with SP AusNet's proposed demand forecasts (see chapter 12 and attachment 9). Hence, the draft decision is that the output growth escalator be calculated with reference to the AER's draft decision on forecast demand.

10 Incentive mechanisms

Incentive mechanisms offer service providers incentives to reduce costs and increase efficiency in the provision of pipeline services. Incentive mechanisms provide a financial reward (or penalty) for efficiency gains (or losses) achieved relative to opex or capex expenditure benchmarks for the access arrangement period. Any rewards (or penalties) for efficiency gains (or losses) are added to the service provider's total revenue and carried forward for five years after the year in which the efficiency gain (or loss) is made. This five year period corresponds to the length of the access arrangement period.

The AER is required under transitional arrangements to ensure increments or decrements resulting from the operation of the incentive mechanism in SP AusNet's current access arrangement are properly reflected in its total revenue.⁸⁴ The AER must also consider whether the incentive mechanism proposed by SP AusNet will encourage efficiency in the provision of services by the service provider and is consistent with the revenue and pricing principles.⁸⁵

The full draft decision and the AER's detailed reasons and analysis on incentive mechanisms can be found in attachment 7.

10.1 Draft decision

The AER does not approve SP AusNet's proposed carryover of \$23.7 millions (\$2012) from the 2008–12 access arrangement period because it has not been calculated according to the incentive mechanism in SP AusNet's current access arrangement. The AER has calculated that SP AusNet accrued a total carryover of \$24.2 million (\$2012) during the 2008–12 access arrangement period (table 10.12).

Table 10.12 AER draft decision on SP AusNet carryover from the 2008–2012 access arrangement period (\$million, 2012)

	2013	2014	2015	2016	2017	Total
SP AusNet proposed	13.1	6.7	5.3	-1.4	–	23.7
AER draft decision	13.4	3.4	8.6	-1.2	–	24.2
Difference	0.3	-3.3	3.3	0.2	–	0.5

Source: SP AusNet Access Arrangement Information, pp. 195, SP AusNet PTRM, AER analysis

The AER does not approve SP AusNet's proposed incentive mechanisms. It considers amendments are required to make the opex incentive mechanism consistent with r. 98 of the NGR and the revenue and pricing principles.⁸⁶

The AER considers SP AusNet's proposed capex incentive mechanism is inconsistent with r. 98 of the NGR and the RRP. In particular, it would not provide effective incentives to promote efficient investment and could lead to underinvestment in or over utilisation of pipeline infrastructure required

⁸⁴ NGR, Schedule 1, clause 5(1)(a).

⁸⁵ NGR, r. 98.

⁸⁶ The revenue and pricing principles are in s. 24 of the NGL.

to deliver pipeline services. Further, the AER does not consider that the inclusion of any alternative capex incentive mechanism would be consistent with the requirements of the NGR. The draft decision is to remove the capex incentive mechanism from the proposed access arrangement.

10.2 Summary of analysis and reasons

In carrying over incentives from the 2008–12 access arrangement period, the AER considers that the adjustments SP AusNet made to benchmark opex⁸⁷ were not consistent with SP AusNet's 2008–2012 access arrangement. The AER also found errors in the actual opex SP AusNet used to calculate the carryover.⁸⁸ For these reasons, the AER recalculated the carryover amounts using the approach set out in SP AusNet's access arrangement for 2008–2012.

The AER accepts SP AusNet's proposal to apply an incentive mechanism to opex. However, there are a number of aspects of SP AusNet's proposal that require further clarification in order to make the incentive mechanism consistent with r. 98 of the NGR and the RPP. The AER has sought to clarify these matters in its draft decision (attachment 7).

SP AusNet also proposed to maintain its ESC approved incentive mechanism for capex for the 2013–17 access arrangement period. This would allow SP AusNet to retain the benefits of any capex underspend for five years from when the capex was undertaken. Under the regulatory regime there is already an incentive within the access arrangement period to deliver capital projects at a lower cost than that forecast. For example, if a business underspends in year one of a regulatory period it will retain the benefits of the underspend for four years, until the end of the five year access arrangement period (or for one year if the expenditure is in year four).

SP AusNet's proposal would provide a higher powered incentive to reduce capex compared with the incentive offered under the regulatory framework. The incentive to reduce capex should be balanced against clearly defined service standard obligations. This would encourage efficient capex reductions without a fall in service standards. However service standard obligations are only loosely defined for gas distribution businesses giving rise to potential cost cutting at the expense of service standards rather than efficiency gains.⁸⁹

In addition, SP AusNet proposed a carryover scheme where capex benchmarks are adjusted to reflect the volume of work undertaken. It considered that this would remove the incentive provided by cumulative carryover schemes to reduce capex at the expense of service levels. While adjusting capex benchmarks to reflect actual volumes does reduce the incentive to reduce capex inappropriately, not all capex is volume adjusted.

For these two reasons, the AER's draft decision is not to accept SP AusNet's proposal to include a capex incentive mechanism. On balance, the AER considers that the regulatory regime already provides sufficient incentives for SP AusNet to deliver its capex program efficiently.

See attachment 7 for more on the AER's draft decision on incentive mechanisms and reasons for its decision.

⁸⁷ In particular the weights SP AusNet applied to the growth factors in its calculation of the growth adjustment.

⁸⁸ Some items were included that should not have been since they did not form part of the benchmark opex.

⁸⁹ Under the Gas Industry Act 2001 (Victoria).

11 Corporate income tax

The estimated cost of corporate income tax is one of the building blocks used to determine the total revenue requirement for SP AusNet over the 2013–17 access arrangement period.

SP AusNet adopted the post-tax framework to derive its revenue requirement for the 2013–17 access arrangement period.⁹⁰ Under the post-tax framework, a separate corporate income tax allowance is calculated as part of the building block assessment.

The AER uses the PTRM to produce an estimate of the taxable income that would be earned by an efficient company operating SP AusNet’s business. The AER modelled SP AusNet’s tax expenses over the access arrangement period using a benchmark 60 per cent gearing. Tax depreciation is calculated using a separate tax asset base. All tax expenses are offset against the service provider’s forecast revenue to estimate the taxable income. The statutory income tax rate of 30 per cent is then applied to the estimated taxable income to arrive at a notional amount of tax payable. The AER then applies a discount to this to account for the assumed utilisation of imputation credits (gamma), which has a value of 0.25. This amount is then included as a separate building block in determining SP AusNet’s total revenue.⁹¹

The full draft decision and the AER’s detailed reasons and analysis on corporate income tax can be found in attachment 8.

11.1 Draft decision

The AER’s draft decision on SP AusNet’s corporate income tax allowance is \$23.3 million (\$nominal), a reduction of \$30.5 million (\$nominal) or 56.7 per cent of SP AusNet’s proposal (see table 11.13). Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 25.3 per cent for this draft decision.

Table 11.13 AER’s draft decision on corporate income tax allowance for SP AusNet (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	2.1	5.1	6.5	7.9	9.5	31.0
Less: value of imputation credits	0.5	1.3	1.6	2.0	2.4	7.8
Net corporate income tax allowance	1.6	3.9	4.9	5.9	7.1	23.3

Source: AER analysis.

⁹⁰ SP AusNet, *Post tax revenue model, March 2012*.

⁹¹ NGR, r. 76(c).

11.2 Summary of analysis and reasons

The AER accepts most of SP AusNet's methods for calculating its corporate income tax allowance. However, the AER adjusted several of SP AusNet's proposed inputs to the PTRM for calculating the corporate income tax allowance, which include:

- The opening tax asset base as at 1 January 2013, including:
 - Amendments to tax additions from 2007–2012 to be consistent with the AER's draft decision on the roll forward of the capital base (attachment 2).
 - Splitting the 'Land & buildings' asset class into two separate asset classes of 'Land' and 'Buildings' as set out in the AER's draft decision on depreciation (attachment 5).
 - Correcting minor formulae errors in the proposed tax roll forward model.
- The tax depreciation approaches for the 'Repairs' and 'Land & buildings' asset classes in group 7 tax assets:
 - Consistent with the approach applying to group 6 tax assets, the AER has corrected the tax depreciation approach for the 'Repairs' asset class to be fully deductible. SP AusNet's proposal was that the 'Repairs' asset class be depreciated using a straight-line method. As repairs are an allowable deduction under provisions of the *Income Tax Assessment Act 1997* the AER does not accept that they be depreciated using a straight-line method.⁹²
 - Consistent with the 2008–12 access arrangement, the AER considers that the 'Buildings' asset class should be depreciated using the straight-line method.
 - The AER has not assigned a tax depreciation method for the 'Land' asset class due to the non-depreciating nature of this asset.

In addition, there are various other changes to the building block components in this draft decision that impact forecast revenues (for example, the capital base and opex). These will consequently affect the forecast corporate income tax allowance.

⁹² ITAA 1997, s. 25-10.

12 Demand forecasts

The NGR requires an access arrangement to include a forecast of pipeline demand over the access arrangement period and the basis on which the forecast has been derived. Demand is an important input into the derivation of SP AusNet's reference tariffs. In particular, understanding how much each reference service is likely to be used over the five year period allows the AER to determine the quantum of each tariff and the overall efficient allocation of tariffs. Demand forecasts also affect opex and capex linked to network growth. For example, if gas demand decreases and revenue remains largely unchanged, this is likely to result in higher tariffs. However, lower demand could also be expected to reduce capex and opex, somewhat offsetting this effect. Conversely, higher demand could be expected to reduce tariffs, other things being equal.

The AER is required to assess SP AusNet's demand forecasts to determine whether they have been arrived at on a reasonable basis and represent the best forecast possible under the circumstances, pursuant to r. 74 of the NGR.

The full draft decision and the AER's detailed reasons and analysis on demand forecasts can be found in attachment 9.

12.1 Draft decision

The AER approves SP AusNet's forecasting methodology as a reasonable basis for determining its forecasts. However, the AER does not approve SP AusNet's proposed demand forecasts as they do not comply with rule 74(2). The AER's draft decision makes two revisions to SP AusNet's demand forecast proposals; these result in higher customer numbers and higher consumption forecasts than those proposed by SP AusNet.

12.2 Summary of analysis and reasons

In applying its forecasting methodology, SP AusNet used some assumptions and data sets that have biased the modelling results. In particular:

- Estimates of Effective Degree Day (EDD) used by SP AusNet to weather normalise historic gas consumption were based on a projection of EDD between 2005 and 2011, rather than historic data.
- The growth rate of new dwellings used to forecast residential customer numbers in Central and West regions are outdated.

For these reasons the AER considers that SP AusNet's demand forecasts are not arrived at on a reasonable basis and do not represent the best forecasts possible in the circumstances.⁹³ The AER's draft decision makes adjustments to the EDD used by SP AusNet to weather normalise historic gas consumption and updates the growth rate of new dwellings to incorporate new estimates of forecast residential customer numbers in Central and West regions.

⁹³ NGR, rule 74(2).

13 Tariff setting – distribution pipelines

An access arrangement must 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.⁹⁴

The AER is required to assess SP AusNet's proposed reference tariffs against the provisions established by r. 93 and r. 94 of the NGR, and the revenue and pricing principles and the NGO, both established by the NGL. In particular, r. 94 requires that:

- Customers must be divided into tariff classes on the basis of what is economically efficient and the need to avoid unnecessary transaction costs.
- For each tariff class, the revenue recovered should be between the total cost of providing that reference service and the avoidable cost of not providing that reference service to those customers.
- Where a tariff consists of two or more charging parameters, each parameter must:
 - take into account the long run marginal cost of the reference service (or element of the service to which the parameter relates)
 - be determined with regard to the transaction costs associated with the tariff (or each charging parameter) and whether customers belonging to the relevant tariff class are able or likely to respond to price signals.
- However, if the above point means that a service provider may not recover its expected revenue, the tariffs must be adjusted to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

The AER's role also includes an assessment of SP AusNet's proposed reference services to which the reference tariff applies.

The full draft decision and the AER's detailed reasons and analysis on tariff setting can be found in attachment 10.

13.1 Draft decision

The AER's draft decision is to approve SP AusNet's proposed structure of reference tariffs for the 2013–2017 access arrangement period. The AER is satisfied that the proposed structure of the reference tariffs complies with the requirements under rules 93 and 94 of the NGR.

However, the quantum of the proposed reference tariffs must be amended as set out in appendix 10 of this draft decision to reflect the AER's draft decision on forecast total revenue and forecast demand.

⁹⁴ NGR, r. 72(1)(j), 95(1) and 95(3)(a).

Further, as discussed in chapter 4, the AER does not accept SP AusNet's proposal to rationalise its ancillary reference services. Hence, tariffs for these services need to be included.

13.2 Summary of analysis and reasons

The AER's draft decision is to approve most aspects of SP AusNet's proposals for tariff setting. The only changes are:

- The quantum of the reference tariffs has been changed to reflect the AER's draft decision on forecast total revenue and forecast demand.
- The AER does not approve SP AusNet's proposal to rationalise its ancillary reference services. The AER considers that this ancillary service is likely to be sought by a significant part of the market and hence, the AER's draft decision is to require it to be retained. The AER requires SP AusNet to amend its proposed tariffs for ancillary services by including a tariff for the meter and gas installation test service as well as the meter removal service.

See attachment 10 for more on the AER's draft decision on incentive mechanisms and reasons for its decision.

14 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 SP AusNet's access arrangement proposal against the tariff variation mechanism requirements of the NGL and NGR. The full draft decision and the AER's detailed reasons and analysis on the tariff variation mechanism can be found in attachment 11.

14.1 Draft decision

The AER does not approve SP AusNet's proposed tariff variation mechanisms for the 2013–17 access arrangement period. The AER considers that some elements of SP AusNet's proposed tariff variation mechanism are not consistent with the NGL and the NGR or that there are alternatives to some elements of SP AusNet's proposal that better meet the NGL and RPP. In particular, the AER considers:

- the proposed magnitude and level of the rebalancing constraint,⁹⁵ the variation process; and certain parts elements in the cost pass through tariff variation mechanism are not consistent with rule 97 of the NGR
- the proposed initial reference tariffs and X factors must be amended to reflect the changes to the forecast total revenue identified in chapter 3 of this draft decision
- the proposed financial failure of a retailer and new connection process events must be removed from the cost pass through mechanism and amendments need to be made to the definitions of the proposed change in taxes and insurance pass through events
- two new pass through events should be added:
 - a low pressure mains replacement event to allow for additional mains replacement where required, in line with the AER's draft decision on capex (see chapter 6 and attachment 3)
 - a National Energy Consumer Framework (NECF) event, in line with the AER's draft decision not to approve a NECF step change in opex because the NECF is yet to commence in Victoria
- the proposed cost pass through mechanism should be amended to enable the AER to apply a consistent approach to its assessment of pass through applications.

The reasons for the AER's decision are further discussed below.

⁹⁵ A rebalancing constraint is a mechanism to restrict the magnitude to which a tariff can vary on an annual basis.

14.2 Summary of analysis and reasons

The AER's draft decision is to make the following amendments to SP AusNet's proposals regarding the tariff variation mechanism:

- Rebalancing constraint for the annual tariff variation formula—the draft decision does not accept SP AusNet's proposal to increase its rebalancing constraint. A rebalancing constraint is a mechanism that restricts the amount that a tariff can vary on an annual basis. The AER is not convinced that the current rebalancing constraint has inhibited SP AusNet's ability to achieve to cost reflective pricing in previous regulatory periods and hence, is not convinced of the need to increase this. Further, a higher rebalancing constraint could lead to increased price volatility and potential price shocks. In sum, the AER considers that the current magnitude of rebalancing constraint in combination with the cost pass through provisions under the NGR provides SP AusNet with a reasonable opportunity to recover at least its efficient costs, consistent with the Revenue and Pricing Principles.
- Revenue equalisation—the initial reference tariffs and X factors must be amended to reflect the changes to forecast total revenue and forecast demand.
- Cost pass through adjustment factor (demand true up)—The demand true up adjustment factor was proposed by SP AusNet to mitigate the risk of higher wholesale gas prices. The AER notes SP AusNet's concern that new LNG facilities could potentially increase wholesale gas prices as Australian gas prices are likely to converge to a (higher) world gas price. However, there would likely be a time lag between LNG facilities being built and the wholesale gas price increasing. As most new LNG facilities are scheduled towards the end of the access arrangement period, it is the AER's view that there is not likely to be a material impact on wholesale prices in the upcoming access arrangement period. For this reason, the AER does not approve the proposed demand true up adjustment factor. It considers that the proposed tariff variation formula revised to remove the demand risk factor would constitute a better alternative. The AER has approved the other two adjustment factors proposed by SP AusNet.
- Cost pass through events—the AER requires two of SP AusNet's proposed pass through events to be removed, revisions to be made to the definitions of two further pass through events and a new pass through event to be included:
 - Removal of the proposed 'financial failure of a retailer event'—the AER considers that SP AusNet can mitigate this risk by agreeing appropriate prudential requirements with users. SP AusNet has proposed detailed credit support requirements in clause 7.8 of its proposed terms and conditions set out in Part C of its access arrangement proposal. The AER considers these requirements provide SP AusNet with adequate protection against the risk of a retailer failing.
 - Removal of the proposed 'new connection process event'—the AER considers that a change in the retail Gas Market Rules would amount to a change in the regulatory framework and be covered by the definition of a regulatory change event.
 - Amendment of the definition of the proposed 'change in taxes event'—SP AusNet's proposed definition referred to a direct and material impact on the revenue received. The AER considers this is not relevant; the relevant consideration is that the event is an uncontrollable event that impacts on costs to the business.
 - Amendment of the definition of 'insurance event'—SP AusNet's proposed definition would have meant that this pass through event would have been triggered when the service provider incurred costs beyond its insurance policy limit. The AER is concerned that this definition

could alter the incentive to obtain adequate insurance where an insurance cap exists (as it would allow such costs to be passed through to users). To address this, the policy limit should be defined by reference to the policy coverage funded through the 2013–17 base opex allowance for SP AusNet in this decision. In addition, in assessing whether this pass through event should apply the AER should consider the efficiency of SP AusNet’s decisions and actions in relation to the risk of a pass through event, including whether SP AusNet has taken action to mitigate the risk of the event occurring or the magnitude of the costs of the event.

- Inclusion of a new cost pass through event to allow SP AusNet to undertake further low pressure mains replacement where it has exceeded the AER's approved volumes (which were set with reference to historic volumes delivered over the 2008–11 access arrangement period). This relates to the AER's draft decision on capex (chapter 6 and attachment 3).
- Inclusion of a new NECF event to allow SP AusNet to recover any expenditure it incurs in implementing the NECF once it commences in Victoria. The NECF has not yet commenced in Victoria and there is uncertainty surrounding when it will be adopted. For this reason, the AER did not approve SP AusNet’s proposed opex step change for NECF related expenditure. However, the AER considers that SP AusNet should be able to recover through this pass through event any expenditure it incurs in implementing NECF once it is adopted in Victoria.

15 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 SP AusNet's access arrangement proposal including capacity trading requirements, queuing requirements, extension and expansion requirements, and terms and conditions on which the reference service will be provided.

The AER reasons for its draft decision on the above non-tariff components are provided in attachment 12 and appendix D.

15.1 Draft decision

The AER has decided to accept most of SP AusNet's terms and conditions. The AER accepts SP AusNet's terms and conditions that it considers are consistent with the NGO. The AER received submissions that do not support the AER's draft decision for some of those terms and conditions. The AER has addressed these submissions and reasons for its decision are provided in attachment 12.

The AER does not accept SP AusNet's extensions and expansions policy. The AER requires SP AusNet to amend its proposal so that all low and medium pressure pipelines are covered by the access arrangement by default. In particular, the AER considers that all extensions to high pressure pipelines should be assessed on a case-by-case basis for coverage—consistent with previous AER decisions.

The AER requires minor amendments to capacity trading requirements, queuing arrangements and review dates. The AER proposes to accept SP AusNet's proposal in relation to a change of receipt or delivery point.

15.2 Summary of analysis and reasons

The AER has undertaken significant consultation in the process of assessing SP AusNet's proposed terms and conditions for this draft decision. The AER held an industry workshop, and considered stakeholder submissions and SP AusNet's response to those submissions.

The AER sought to facilitate increased engagement between SP AusNet and retailers on SP AusNet's proposed terms and conditions. The objective was to foster agreement between SP AusNet and key users on the proposed terms and conditions prior to the release of the AER's draft decision where possible, and to highlight areas of significant disagreement or particular concern.

As part of this engagement process, the AER hosted a workshop attended by representatives of the three Victorian gas distribution network owners and a number of retailer businesses. This workshop provided each of the parties attending with an opportunity to discuss the network owners' proposed terms and conditions.

Discussion during the workshop centred on the impact that NECF would have on the structure of the proposed terms and conditions. Further, participants highlighted inconsistencies in the terms and

conditions across access arrangements, which could increase retailer transaction costs. The minute of the workshop is available on the AER's website at: <http://www.aer.gov.au/node/14473>

At the workshop, the gas network owners committed to consider the retailers' submissions and seek to resolve any disputes prior to the release of the AER's draft decision in September 2012. They also committed to take steps to minimise inconsistencies across their access arrangements, and clarify any drafting ambiguities.

Following the workshop, the AER received submissions on terms and conditions from some retailers, which identified areas of concern and gave reasons for those concerns (discussed in more detail below). The AER subsequently wrote to SP AusNet giving it the opportunity to consider the submissions made by stakeholders in response to its proposal.

The AER seeks further feedback from stakeholders on terms and conditions in their submissions to this draft decision. The AER expects that SP AusNet will undertake further consultation with users before it submits its revised access arrangement to the AER. The AER may hold another terms and conditions workshop to facilitate the parties' understanding of the operation of the terms and conditions.

16 Interlinkages between decision components

In assessing each element of SP AusNet's access arrangement, including the building blocks, the AER has taken into account the interlinkages between the building blocks and between the elements of SP AusNet's access arrangement proposal. Some examples of interlinkages between the elements include:

- Rate of return and the weighted average cost of capital parameters—there are various interlinkages between these parameters, including that the AER has determined each of them on the basis of a 10 year investment horizon, the 60 per cent gearing ratio affects the estimation of the equity beta, and the debt risk premium and the assumed utilisation of imputation credits (γ) affects the estimation of the market risk premium.
- Forecast opex allowance and the incentive mechanism—the use of actual opex in establishing the forecast opex allowance and the efficiency carryover resulting from the operation of the efficiency carryover mechanism is necessary to preserve the rewards or penalties associated with the efficiency of a service provider's operations.
- Capex and opex allowances and the cost pass through mechanism—the cost pass through mechanism allows a service provider to recover costs that are uncontrollable and not otherwise provided in the forecast capex and opex allowances. This for example relates to certain costs for additional mains replacement and costs associated with the commencement of NECF in Victoria, which were not included as part of the forecast allowances (see attachments 3, 6 and 11).
- Non price terms and condition and opex—the efficient level of insurance that the AER has allowed for in SP AusNet's forecast opex is determined to some extent by how risk is allocated through its terms and conditions (see attachments 6 and 12).

Capex and opex—capex can result in potentially higher or lower opex depending on whether, for example, that capex goes to network augmentation (increased opex could be required to support new systems) or replacement of aging assets (which can require higher maintenance opex) (see attachments 3 and 6).



**Access Arrangement draft decision
SPI Networks (Gas) Pty Ltd
2013–17**

**Part 2
Attachments**

September 2012

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Shortened forms

Shortened form	Full title
2008-12 access arrangement	Access arrangement for SP AusNet effective from 1 January 2008 to 31 December 2012 inclusive
2008-12 access arrangement period	1 January 2008 to 31 December 2012 inclusive
2013-17 access arrangement period	1 January 2013 to 31 December 2017
2018-22 access arrangement	Access arrangement for SP AusNet effective from 1 January 2018 to 31 December 2022 inclusive
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
access arrangement information	SP AusNet, Access arrangement information, 30 March 2012
access arrangement proposal	SP AusNet, Access arrangement proposal, 30 March 2012
capex	capital expenditure
CAPM	capital asset pricing model
CPI	consumer price index
Code	National Third Party Access Code for Natural Gas Pipeline Systems
DRP	debt risk premium
ESC	Essential Services Commission (Victoria)
MRP	market risk premium
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
opex	operating expenditure
PTRM	post tax revenue model
RAB	regulatory asset base
RFM	roll forward model
RPP	revenue pricing principles
SP AusNet	SPI Networks (Gas) Pty Ltd (ACN 086 015 036)
WACC	weighted average cost of capital

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1 Pipeline Services

The NGR includes a number of requirements with respect to:

- identifying the pipeline which the access arrangement relates to¹ and
- the services which SP AusNet to offer to provide by means of the pipeline.²

1.1 AER draft decision

The AER considers that SP AusNet has met its obligations to describe the pipeline services and specify the reference services that it proposes to offer.

The AER does not approve SP AusNet's proposed ancillary services. The AER requires SP AusNet to make the amendment set out in Revision 1.1.

1.2 SP AusNet's proposal

SP AusNet's access arrangement proposal describes the type and nature of pipeline services to be provided by its Victorian gas distribution network. This includes reference services (services that are likely to be sought by a significant part of the market) and non-reference services.

SP AusNet proposes to offer three reference services, which are described as Haulage Reference Services. The Haulage Reference Services are differentiated on the basis of the tariff assigned to the relevant distribution supply point. SP AusNet also proposes to offer three Ancillary Reference Services.³

Further, SP AusNet proposes to offer Distribution Services other than Reference Services. These services are not reference services. The AER notes that SP AusNet's Tariff D and Tariff M connections are not reference services.⁴

1.3 Assessment approach

In its access arrangement proposal SP AusNet is required to specify all reference services.⁵ A reference service is a pipeline service that is likely to be sought by a significant part of the market.⁶ A pipeline service is a:

- service provided by means of a pipeline, including a:
 - haulage service

¹ NGR, r. 101(1).

² NGR, r. 48(1)(b).

³ SP AusNet, *Access arrangement proposal: Part A, 30 March 2012*, clause 5.2.1.

⁴ SP AusNet, *Access arrangement proposal: Part A, 30 March 2012*, clause 5.2.3.

⁵ NGR, r. 48(1)(c), NGR, r. 101(1).

⁶ NGR, r. 101(2).

- service facilitating the interconnection of pipelines
- service ancillary to one of these services.⁷
- A reference service must also be consistent with the NGO.⁸

The AER's approach to assessing these requirements involves first identifying the covered pipeline that will be regulated through the access arrangement. This involves identifying:

- the covered pipeline under the earlier access arrangement
- any extensions or expansions that were completed during the earlier access arrangement and which are taken to be 'covered' under that access arrangement's extension and expansion requirements.

After identifying the covered pipeline the next step is to describe the pipeline services and reference service that will be regulated through the access arrangement. It is then possible to:

- calculate the reference tariff
- determine the other non-tariff terms and conditions which will form part of the access arrangement.⁹

1.4 Reasons for decision

Identification of the pipeline services

The AER considers that SP AusNet has met its obligations pursuant to r. 48(1)(a) of the NGR.

Clause 5.1 of SP AusNet's access arrangement proposal states that it applies to SP AusNet's distribution system, further details of which can be inspected at the its website: www.sp-ausnet.com.au. SP AusNet's access arrangement information also contains information about SP AusNet's distribution system.

Description of the pipeline services

The AER considers that the pipeline services that SP AusNet proposes to provide are adequately described.¹⁰ SP AusNet has described the pipeline services being offered as reference services and ancillary reference services in clause 5 and schedule 1 of its access arrangement proposal.

Specification of the reference service

Clause 5.2.1 of SP AusNet's access arrangement proposal states that it will make haulage reference services and ancillary reference services available to users or prospective users of

⁷ NGL, s. 2.

⁸ NGR, r. 100(a).

⁹ Such as queuing requirements, extension and expansion requirements, and capacity trading requirements.

¹⁰ NGR, r. 48(1)(b).

the distribution system. This is in accordance with the reference tariff policy set out in clause 5.3 of the proposal.

Haulage reference services are defined in schedule 2 and include the injection, conveyance and withdrawal of gas at transfer points and distribution supply points (as applicable).

Schedule 1 of SP AusNet's access arrangement proposal defines ancillary reference services to include a disconnection service, a reconnection service and a special meter reading service.

Reference services

SP AusNet's access arrangement proposal states that the reference services provided by SP AusNet as described above are likely to be sought by a significant part of the market.¹¹

The AER considers that a significant part of the market is likely to seek services that provide for the injection, conveyance and withdrawal of gas. Accordingly, the AER is satisfied that the reference services proposed by SP AusNet are likely to be sought by a significant part of the market. This means they must be covered by the access arrangement.

Ancillary reference services

The AER considers that the proposed ancillary reference services are likely to be sought by a significant part of the market. Subject to the removal of one service, the ancillary reference services proposed by SP AusNet are largely consistent with those in the current access arrangement.

For the reasons set out below, the AER does not accept SP AusNet's proposal to remove the on-site meter and gas installation test from its list of ancillary reference services in its access arrangement proposal.

SP AusNet proposes to remove its Meter and Gas Installation Test from its list of ancillary reference services. The Meter and Gas Installation Test is an on-site test to check the accuracy of a meter and the soundness of a gas installation in order to determine whether the meter is accurately measuring the quantity of gas delivered. SP AusNet states that this service has been removed from its list of ancillary reference services because, based on historical demands, it is not likely to be sought by a significant part of the market in the forthcoming regulatory period. SP AusNet also states that it is more cost effective to replace the meter and perform the test off-site. SP AusNet therefore proposes that the service be classed as a non-reference service and charged on a recoverable works basis.¹²

The AER considers that a significant part of the market is likely to seek a test to check the accuracy of a meter and the soundness of a gas installation. The AER considers that while a meter test may be conducted off-site, a test of the soundness of the installation can only be conducted on-site. The AER considers that this is an important test, both from the perspective of safety and invoice accuracy. Accordingly, the AER considers that a significant part of the market is likely to seek such a service.

¹¹ SP AusNet, *Access arrangement proposal: Part A*, 30 March 2012, clause 5.2.1, p 5.

¹² SP AusNet, *Access arrangement information*, 30 March 2012, paragraph 13.5, p, 214.

The AER also considers that the performance of this service would be consistent with the NGO. Such a test ensures safe connections and increases efficiency by detecting and reducing gas leaks. This will also ensure that gas use is correctly metered thereby better reflecting the costs of providing the gas services. This will promote the efficient operation and use of gas services, aspects of the NGO.

Finally, the AER notes that both Envestra and Multinet have proposed to provide an equivalent ancillary service.¹³

The AER received submissions from AGL and Origin on ancillary reference services.¹⁴ Concerns in the submissions were general in nature. The submissions did not identify any specific services currently provided as pipeline services with the exception of reference services that should be included as an ancillary reference service.

AGL's submission stated that there did not appear to be any logical reason for why some services are included in the definition of ancillary reference services, while others are excluded. AGL included meter and gas installation testing as an example of what it considers is the inconsistent approach taken by the three distribution businesses. AGL did not state its view as to which category such a service should fall within.¹⁵ AGL did not state whether it believes meter and gas installation tests are accessed by a significant part of the market, and whether these tests should be included in the definition of ancillary reference services.

AGL's stated that its preference is to include services that can only be performed by the monopolistic service providers in the definition of ancillary reference services.¹⁶

The AER notes AGL's preference. However, AGL does not provide a list of specific ancillary services that it believes are likely to be sought by a significant part of the market.

Origin also submitted that the definitions of ancillary and excluded (negotiated) services are not consistent across the three distributor businesses. Origin proposes that the definitions be made consistent. Origin submits that all monopoly services other than standard haulage services should be defined as ancillary.¹⁷ However, Origin's submission does not specify exactly what services it believes are likely to be sought by a significant part of the market.

1.4.1 Non reference services

Non reference services (negotiated or excluded services) are outside the scope of an access arrangement. Therefore, the AER's decision in respect of SP AusNet's access arrangement proposal does not extend to such services.

SP AusNet stated that it will provide pipeline services other than reference services as agreed or otherwise in accordance with regulatory instruments.¹⁸ These services include Tariff D

¹³ Envestra, *Access arrangement proposal 30 March 2012, clause 2.3*; Envestra, *Access arrangement proposal: Part A, 30 March 2012, Schedule 1*.

¹⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A; Origin, 2012, Victorian Gas Access Arrangement Review, 28 June 2012, p. 3.

¹⁵ AGL, 2012 Victorian Gas Access Arrangement Review, 29 June 2012, p. 3.

¹⁶ AGL, 2012 Victorian Gas Access Arrangement Review, 29 June 2012, Attachment A.

¹⁷ Origin, 2012, Victorian Gas Access Arrangement Review, 28 June 2012, p. 3.

¹⁸ SP AusNet, *Access arrangement proposal*, 30 March 2012, clause 5.2.1.

Connection and Tariff M Connection.¹⁹ Tariff D and M connection services provide for the establishment and maintenance of a physical link between the distribution pipeline and a customer's premises. Tariff M and D are described in SP AusNet's access arrangement information as applying to customers who:

- have previously been tariff V customers but should be using more than 10 000 gigajoules in a 12 month period or 10 gigajoules in an hour; or
- should be using or is expecting to use more than 10 000 gigajoules in a 12 month period or 10 gigajoules in an hour.²⁰
- The AER did not receive any submissions that address whether these services are likely to be sought by a significant part of the market.

An access arrangement is required to contain Pipeline Services that are Reference Services.²¹ If a service is unlikely to be sought by a significant part of the market, it will not be a reference service—it will be a negotiated or excluded service.

AGL submitted that excluded or negotiated services (pipeline services other than reference services) charges are becoming less transparent and more arbitrary. It considers that the number of disputes between service providers and retailers about negotiated services has increased in recent years. AGL submitted that after it questioned the veracity and reasonableness of certain negotiated service charges with a service provider, the service provider threatened to withdraw its services unless AGL signed an excluded services agreement.

AGL claims that service providers have little incentive to perform distribution services in a timely manner (as they exclude their liability). Further, since third parties do not provide some of those services, AGL claims that retailers have no option but to accept the service provider's quoted negotiated service charges. AGL submitted that negotiated services should therefore be listed and their corresponding fees included in the access arrangement.²²

AGL has not provided specific details of any negotiated or excluded services that it considers would be sought or likely to be sought by a substantial part of the market i.e. reference services or ancillary reference services. In the absence of any specific examples, the AER is unable to assess whether there are any such services.

In reaching its final decision, the AER will consider any submissions it receives in response to this draft decision. This includes submissions about further possible reference services or ancillary reference services. If a party making submissions considers that there are such services, it should give reasons why it considers they are likely to be sought by a significant part of the market.

In the absence of further evidence, the AER proposes to monitor these non reference services, the associated revenues, and demand during the access arrangement period. The

¹⁹ SP AusNet *Access arrangement proposal*, 30 March 2012, clause 5.2.1.

²⁰ SP AusNet, *Accesss Arrangement Information*, pp. 213 & 214.

²¹ NGR, r. 48(1)(c); NGR, r. 101(2); NGL, s. 2.

²² AGL, 2012 Victorian Gas Access Arrangement Review, 29 June 2012, Attachment B

AER will reconsider whether such services should be part of the reference service, ancillary reference services, or additional reference services, at the next access arrangement review.

1.5 Revisions

Revision 1.1: Amend schedule 1 of the access arrangement proposal as follows:

Include the following words to the list of ancillary reference service:

'On-site meter and gas installation test: on site testing to check the accuracy of a Meter and the soundness of a Gas Installation, in order to determine whether the Meter is accurately measuring the Quantity of Gas delivered.'

2 Capital base

The capital base roll forward accounts for the value of SP AusNet's regulated assets over the access arrangement period. The opening capital base value for a regulatory year is rolled forward by indexing it for inflation, adding any conforming capex, and subtracting depreciation and other possible factors (for example, disposals or customer contributions). Following this process, the AER arrives at a closing value of the capital base at the end of the relevant year. The opening value of the capital base is used to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

The AER is required to make a decision on SP AusNet's opening capital base as at 1 January 2013 for the 2013–17 access arrangement period. The AER is also required to make a decision on SP AusNet's projected capital base for the 2013–17 access arrangement period. This attachment presents the AER's draft decision on these matters.

2.1 Draft decision

The AER does not approve SP AusNet's proposed opening capital base of \$1292.6 million as at 1 January 2013 because it considers that some of SP AusNet's inputs into the capital base roll forward model (RFM) do not comply with the NGR.²³ These include:

- SP AusNet's proposed indexation of the capital base
- SP AusNet's partial application of the ESC's capex incentive scheme for capex in 2012
- minor amendments to account for movements in provisions and consistency with historical regulatory accounts.

After adjusting these inputs, the AER has determined an opening capital base of \$1261.6 million (\$nominal) as at 1 January 2013, which is \$31 million less than that proposed by SP AusNet. Table 2.1 summarises the AER's draft decision on the roll forward of SP AusNet's capital base during the 2008–12 access arrangement period.

The AER approves some aspects of SP AusNet's proposal to determine the opening capital base as at 1 January 2013. These include:

- the opening capital base at 1 January 2007, which is consistent with the value adopted in the ESC's further final decision for the 2008–12 gas access arrangement review
- the use of forecast depreciation as set by the ESC.

²³ NGR, r. 77(2).

Table 2.1 AER's draft decision on SP AusNet's capital base roll forward for the 2008–12 access arrangement period (\$million, 2012)

	2008	2009	2010	2011	2012
Opening capital base	1153.7	1177.1	1198.2	1217.1	1245.2
Capex	75.3	76.0	76.8	85.8	75.6 ^a
Less: customer contributions	4.1	3.4	3.6	3.6	4.0
Less: disposals	0.4	0.2	0.1	–	–
Less: depreciation	47.4	51.3	54.0	54.1	55.2
Closing capital base	1177.1	1198.2	1217.1	1245.2	1261.6
Opening capital base at 1 January 2013					1261.6

Source: AER analysis.

- (a) The AER has approved 2012 capex values equal to the ESC's benchmark capex, adjusted for actual growth. This is consistent with the ESC's capex incentive scheme and is discussed in section 2.4.2.

Based on the approved opening capital base and the AER's draft decisions on forecast capex, depreciation, and inflation, the AER has determined a projected closing capital base of \$1587.8 million (\$nominal) as at 31 December 2017. Table 2.2 sets out the projected roll forward of the capital base during the 2013–17 access arrangement period.

Table 2.2 AER's draft decision on projected capital base roll forward for the 2013–17 access arrangement period (\$million, nominal)

	2013	2014	2015	2016	2017
Opening capital base	1,261.6	1,339.8	1,413.7	1,478.6	1,533.4
Net capex	95.0	94.9	90.5	83.7	87.4
Less: depreciation	48.4	54.6	60.9	66.0	71.3
Indexation	31.5	33.5	35.3	37.0	38.3
Closing capital base	1,339.8	1,413.7	1,478.6	1,533.4	1,587.8

Source: AER analysis.

2.2 SP AusNet's proposal

SP AusNet proposed adopting an opening capital base as at 1 January 2008 of \$966.5 million (\$2006).²⁴ This included a reduction of \$3.6 million (\$2006) from the previous access arrangement review to reflect the difference between the ESC's approved capex for 2007 and actual capex for 2007.

Based on the opening capital base as at 1 January 2008 and the roll forward of the capital base in the 2008–12 access arrangement period, SP AusNet proposed an opening capital base of \$1292.6 million as at 1 January 2013. This is shown in table 2.3.

Table 2.3 SP AusNet's proposed capital base roll forward during the 2008–12 access arrangement period (\$million, 2012)

	2008	2009	2010	2011	2012
Opening capital base	1153.9	1177.4	1197.9	1216.8	1245.0
Capex	75.4	75.5	76.7	85.8	90.9
Less: customer contributions	4.1	3.4	3.6	3.6	4.0
Less: disposals	0.4	0.2	0.1	–	–
Less: depreciation	47.4	51.3	54.0	54.1	55.2
Closing capital base	1177.4	1197.9	1216.8	1245.0	1276.7
Six months CPI adjustment					15.9
Opening capital base at 1 January 2013					1292.6

Source: SP AusNet, *Access arrangement information*, March 2012, p. 167.

2.2.2 Capital expenditure in the 2008–12 access arrangement period

SP AusNet indicated it has incurred net capex of \$384.9 million (\$2012) in the 2008–12 access arrangement period.²⁵ This amount included actual capex from 2008–11, and a mix of actual and benchmark capex for 2012 to be consistent with the ESC's capex incentive scheme. Specifically, SP AusNet used the ESC's 2012 benchmark capex adjusted for actual growth for mains replacement and meter replacement programs. However, SP AusNet did not apply the ESC's approach for some of its capex. Specifically, SP AusNet provided revised estimates of augmentation and ICT capex in 2012.

²⁴ SP AusNet, *2013–2017 access arrangement review—Access arrangement information*, March 2012, p. 165. (SP AusNet, *Access arrangement information*, March 2012).

²⁵ SP AusNet, *Access arrangement information*, March 2012, p. 166.

SP AusNet proposed that its capex amounts comply with the relevant NGR requirements and should be included in the opening capital base for the 2008–12 access arrangement period as set out in Table 2.4. The capex proposed under each category driver is discussed in more detail in attachment 3.

Table 2.4 SP AusNet's proposed conforming capital expenditure for 2007 and the 2008–12 access arrangement period (\$million, 2012)

	2007	2008	2009	2010	2011	2012	Total
Transmission pipelines	–	–	–0.1	–	–0.5	3.1	2.5
Distribution pipelines	25.9	29.2	24.6	31.8	39.2	39.7	190.3
Service pipes	14.6	26.7	27.0	21.9	22.2	15.2	127.7
Cathodic protection	0.1	0.2	0.6	–	0.8	0.0	1.8
Supply regulators/Valve stations	2.1	2.0	1.4	0.4	1.2	1.3	8.4
Meters	8.3	10.8	5.9	7.4	7.5	9.6	49.6
SCADA and remote control	0.5	–	1.6	0.8	0.8	1.6	5.3
Land and building	–	–	–	–	–	–	–
Other - IT	2.4	1.6	10.7	10.2	10.5	16.0	51.3
Other - non IT	1.3	0.3	0.3	0.4	0.4	0.4	3.2
Total net capex	55.3	70.9	71.9	72.9	82.2	86.9	440.1

Source: SP AusNet, *Roll forward model*, March 2012.

2.2.3 Adjustment to the capital base for inflation in the 2008–12 access arrangement period

SP AusNet proposed to roll forward its capital base in real 2006 dollar terms, and then apply a CPI adjustment to determine the opening capital base as at 1 January 2013. Specifically, SP AusNet proposed to apply 6.5 years of actual inflation to index the opening capital base from real 2006 dollars to real 2012 dollars for insertion into the post-tax revenue model (PTRM). It determined the 6.5 years of actual inflation based on:

- six years of inflation using annual changes in September–September CPI²⁶
- an additional half year by annualising six months of an estimated 2.5 per cent of annual inflation to arrive at an opening capital base as at 1 January 2013.²⁷

SP AusNet proposed that applying six years of CPI to the closing capital base for 2012, calculated in real 2006 dollars labelled '1 July 2006', implied the closing capital base for 2012 was valued as at 1 July 2012. It stated that an additional six months of inflation was therefore required to bring the capital base to a value as at 1 January 2013.

²⁶ SP AusNet, *Access arrangement information*, March 2012, p. 166.

²⁷ SP AusNet, *Access arrangement information*, March 2012, p. 167.

2.2.4 Depreciation in the 2008–12 access arrangement period

SP AusNet proposed to depreciate its capital base in the roll forward for the 2008–12 access arrangement using forecast straight-line depreciation, as approved by the ESC in its 2008–12 gas access arrangement review.²⁸

2.2.5 Projected capital base over the 2013–17 access arrangement period

SP AusNet proposed a projected closing capital base as at 31 December 2017 of \$1722.4 million (\$nominal). The projected roll forward of the capital base during the 2013–17 access arrangement period is shown in Table 2.5. SP AusNet has included in its capital base projection:

- forecast inflation of 2.51 per cent per annum²⁹
- forecast straight-line depreciation, which is discussed in more detail in attachment 5. SP AusNet proposed to use this forecast straight-line depreciation to determine the roll forward of the opening capital base at the next access arrangement review for the 2018–22 access arrangement period.³⁰

Table 2.5 SP AusNet's proposed projected capital base roll forward during the 2013–17 access arrangement period (\$million, nominal)

	2013	2014	2015	2016	2017
Opening capital base	1296.2	1375.2	1456.7	1548.1	1629.8
Net capex	110.1	112.7	119.5	111.8	123.5
Less: depreciation	27.5	31.2	28.1	30.1	31.0
Closing capital base	1375.2	1256.7	1548.1	1629.8	1722.4

Source: SP AusNet, *Access arrangement information*, March 2012, p. 170.

2.3 Assessment approach

In assessing SP AusNet's proposal, the AER is required to consider the transitional provisions of the NGR. This is because SP AusNet's access arrangement for the 2008–12 access arrangement period was ongoing when the new access regime came into force.³¹ Rule 79 of the NGR provides that actual or forecast capex (new facilities investment) approved by a Relevant Regulator under section 8.21 of the Code is taken to be a decision by the AER that the capex conforms with the new capex criteria.³²

²⁸ SP AusNet, *Access arrangement information*, March 2012, p. 167.

²⁹ SP AusNet, *Access arrangement information*, March 2012, p. 166.

³⁰ SP AusNet, *Access arrangement information*, March 2012, p. 166–167.

³¹ NGR, Schedule 1, clause 1(1)(a).

³² NGR, Schedule 1, clause 3(2)(a).

The AER's approach to assessing SP AusNet's projected capital base is consistent with that adopted by the AER in previous gas decisions made under the NGR.³³ In accordance with rr. 77(2) and 78 of the NGR, the AER applied three steps to calculate the projected capital base:

- First, the AER confirms the value of the opening capital base for the first year of the 2008–12 access arrangement period (in this case, 1 January 2008). Typically, this requires making an adjustment to account for any difference between actual and estimated capex in the final year of the previous access arrangement period (in this case, 2007). This adjustment is also subject to any changes made in the AER's assessment of conforming capex for that year.
- Second, the opening capital base as at 1 January 2008 is rolled forward to determine the closing capital base as at 31 December 2012. This closing capital base is also used as the value of the opening capital base for the access arrangement period as at 1 January 2013. This involves:³⁴
 - adding conforming actual capex for each year—this requires assessing the capex and determining that it is consistent with the provisions of the 2008–12 access arrangement and historical regulatory accounts³⁵
 - removing forecast depreciation for each year based on the approach approved for the 2008–12 access arrangement
 - removing any capital contributions during the 2008–12 access arrangement period
 - adding any speculative capex or redundant assets that were reused during the 2008–12 access arrangement period
 - removing any redundant assets and disposals during the 2008–12 access arrangement period
 - indexing the roll forward each year for actual inflation.
- Third, the capital base is projected over the 2013–17 access arrangement period by rolling forward the opening capital base as at 1 January 2013 to 31 December 2017. This involves taking the opening capital base:³⁶
 - adding forecast conforming capex for each year
 - removing forecast depreciation for each year
 - removing the forecast value of assets to be disposed of during the 2013–17 access arrangement period

³³ AER, *Final decision: Jemena access arrangement*, June 2010; AER, *Final decision: Country Energy Gas access arrangement*, March 2010; AER, *Final decision: ActewAGL access arrangement*, March 2010; AER, *Final decision: Envestra arrangement proposal Qld*, June 2011; AER, *Final decision: Envestra Ltd access arrangement proposal for the SA gas network 2011–2016*, June 2011 (AER, *Final decision: Envestra access arrangement SA*, June 2011); AER, *Final decision: APT Allgas access arrangement*, June 2011; AER, *Final decision: NT Gas access arrangement*, July 2011. AER, *Final decision: Roma to Brisbane Pipeline 2012–13 to 2016–17*, April 2012.

³⁴ NGR, r. 77(2).

³⁵ NGR, r. 77(2).

³⁶ NGR, r. 78.

- indexing the capital base of the roll forward each year for forecast inflation.

2.4 Reasons for draft decision

The AER considers SP AusNet's proposed inputs into the capital base roll forward overstate the value of the opening capital base at 1 January 2013 and consequently the projected closing capital base as at 31 December 2017. The AER considers these inputs are not consistent with r. 77(2) and r. 73 of the NGR respectively. In particular, the AER considers:

- SP AusNet's proposed inflation of the capital base will result in six months of unnecessary additional CPI adjustment. This will overstate the value of the opening capital base as at 1 January 2013.
- The ESC's capex incentive scheme should apply in full to 2012 capex whereas SP AusNet has only partially applied the ESC's capex incentive scheme for updating 2012 capex.
- Conforming capex should not include movements in provisions. This is because the capex amounts rolled into the capital base should reflect actual expenditures in the 2008–12 access arrangement period and not capitalised amounts set aside for future expenditures.
- SP AusNet's initial conforming net capex amounts were for some years inconsistent with its audited historical regulatory accounts.³⁷
- SP AusNet's proposed forecast capex and depreciation inputs used to roll forward the projected capital base for the 2013–17 access arrangement period need to be amended. The AER considers that these proposed inputs do not meet the requirements of the NGR (see attachments 3 and 5).

The AER has also made other minor amendments to SP AusNet's capital base roll forward, which are discussed in the following sections. These amendments are individually necessary for consistency with relevant NGR requirements. The AER's detailed assessment follows.

2.4.1 Opening capital base in the 2008–12 access arrangement period

The AER approves an opening capital base of \$1153.7 million (\$2012) as at 1 January 2008 for SP AusNet. This amount includes the AER's adjustment to the ESC's approved opening capital base for the difference between forecast and actual capex for 2007. The AER largely accepts SP AusNet's proposed adjustments to the opening capital base to reflect actual capex for 2007. However, the AER has made minor amendments to account for movements in capitalised provisions in 2007. The AER considers these movements in provisions do not meet the requirements of conforming capex under the NGR.³⁸ This is because the

³⁷ The AER identified these discrepancies with SP AusNet, who provided a revised RFM to reconcile the values. SP AusNet, *Response to AER information request 10 regarding the reconciliation of 2007-2011 proposal capex with SP AusNet's audited regulatory accounts*, 19 June 2012.

³⁸ NGR, rr. 77(2) and 79.

expenditures have not yet been incurred (see section 2.4.2) consistent with the requirements under the NGR.³⁹

2.4.2 Conforming capital expenditure in the 2008–12 access arrangement period

The AER's assessment of conforming capex is set out in attachment 3. In determining the opening capital base as at 1 January 2013, the AER assessed whether SP AusNet's proposed capex amounts for the 2008–12 access arrangement are properly accounted for in the capital base roll forward.

The AER accepts that SP AusNet's proposed capex for the 2008–12 access arrangement period is properly included in the capital base roll forward and is consistent with the requirements of the NGR,⁴⁰ except for the following:⁴¹

- adjustments to 2012 capex—the AER has replaced SP AusNet's mix of actual and estimated 2012 capex with benchmark (forecast) 2012 capex adjusted for actual growth. This is consistent with the ESC's capex incentive scheme for the 2008–12 access arrangement period⁴²
- reversals of movements in capitalised provisions so the capex amounts only reflect actual expenditure during the 2008–12 access arrangement period
- minor reconciliation differences between SP AusNet's proposal and SP AusNet's audited regulatory accounts.

In total, these amendments result in a reduction of \$15 million or 3 per cent of SP AusNet's proposed capex amounts for the 2008–12 access arrangement period. The AER's draft decision on conforming net capex amounts as used in the capital base roll forward are set out in Table 2.6.

³⁹ NGR, r. 77(2)(a).

⁴⁰ NGR, r. 77(2)(b).

⁴¹ The AER's detailed analysis of conforming capex by project and driver is in attachment 3.

⁴² Essential Services Commission, *Gas access arrangement review 2008–12, Final decision*, March 2008, pp. 431–432.

Table 2.6 AER's approved conforming net capex for 2007 and the 2008–12 access arrangement period (\$million, 2012)

Asset class	2007	2008	2009	2010	2011	2012	Total
Transmission pipelines	0.0	0.0	0.1	0.0	0.1	0.6	0.8
Distribution pipelines	25.0	28.6	23.8	31.3	38.1	32.0	178.8
Service pipes	14.7	26.8	27.6	22.4	22.7	20.6	134.8
Cathodic protection	0.1	0.2	0.6	0.0	0.8	0.7	2.4
Supply regulators/Valve stations	2.1	2.0	1.4	0.4	1.2	0.4	7.5
Meters	9.0	11.3	6.3	7.5	7.5	11.6	53.1
SCADA and remote control	0.5	0.0	1.6	0.8	0.8	0.4	4.1
Land and building	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other - IT	2.4	1.6	10.7	10.2	10.5	5.2	40.6
Other - Non IT	1.3	0.3	0.3	0.4	0.4	0.2	3.0
Total net capex	55.1	70.8	72.4	73.0	82.1	71.6	425.0

Source: AER analysis.

Note: Totals may not add due to rounding.

Adjustments to 2012 capex

The AER does not approve SP AusNet's proposed capex estimate for 2012 because it does not properly reflect increments or decrements arising from the operation of the ESC's capex incentive scheme.⁴³ In attachment 7, the AER has addressed the application of the ESC's capex incentive scheme from 2008–11. However, the ESC's capex incentive scheme required a distinct approach to the treatment of capex in the final year of an access arrangement period. This approach is specified in SP AusNet's 2008–2012 access arrangement.⁴⁴ Specifically, the ESC's approach to dealing with capex in the final year of an access arrangement period as part of its capex incentive scheme requires the following for this access arrangement review:⁴⁵

- The 2012 capex to be included in the opening capital base as at 1 January 2013 should be set as the adjusted benchmark 2012 capex.
- This adjusted benchmark 2012 capex is based on the ESC's approved benchmark 2012 capex at the previous access arrangement review. The benchmark capex is then adjusted for customer growth, meter replacement and low pressure pipeline replacement.

⁴³ NGR, Schedule 5, clause 5(1)(a).

⁴⁴ SP AusNet, *Gas access arrangement revision 2008–2012: Part B of the access arrangement for the distribution system—Reference tariffs and reference tariff policy*, p. 25.

⁴⁵ Essential Services Commission, *Gas access arrangement review 2008–12, Final decision*, March 2008, pp. 431–432.

SP AusNet has only partially adhered to the ESC's approach for final year capex in an access arrangement period. SP AusNet has applied this approach to some of its 2012 capex categories, but has proposed new estimates of actual 2012 capex for the capex categories of augmentation and information and communication technology (ICT). This approach changes the power of the capex incentive for 2012 compared to other years in the 2008–12 access arrangement period.

The AER will roll into the capital base SP AusNet's actual (conforming) capex for 2012 at the next access arrangement review. The AER considers that this approach properly applies the ESC's capex incentive scheme for the full period. This will ensure SP AusNet fully receives any benefits or penalties for capex that diverges from the benchmark set by the ESC. The AER's adjustments to benchmark 2012 capex are set out in table 2.7.

Table 2.7 AER's approved benchmark capex for 2012 (\$million, 2012)

Asset class	Allocated ESC benchmark ^a	Benchmark adjustment	AER approved 2012 gross capex
Transmission pipelines	0.6	–	0.6
Distribution pipelines	33.7	2.3	36.0
Service pipes	20.6	–	20.6
Cathodic protection	0.7	–	0.7
Supply regulators/Valve stations	0.4	–	0.4
Meters	12.2	–0.7	11.6
SCADA and remote control	0.4	–	0.4
Land and building	–	–	–
Other - IT	5.2	–	5.2
Other - Non IT	0.2	–	0.2
Total gross capex	74.0	1.6	75.6

Source: AER analysis.

(a) These values total to the ESC's benchmark capex for 2012 set in the access arrangement review for the 2008–12 access arrangement period. However, SP AusNet has disaggregated its asset classes since that previous access arrangement review. The AER has therefore allocated the total values for 2012 capex to SP AusNet's disaggregated asset classes using the approved asset class proportions for 2011 capex.

The AER's draft decision results in a reduction to SP AusNet's proposed opening capital base as at 1 January 2013 of approximately \$15.3 million (\$nominal). However, this value will be updated for actual 2012 capex at the time of the next access arrangement review. SP AusNet will only gain or lose the return on capital associated with the difference between the approved benchmark 2012 capex and actual 2012 capex for five years, as discussed below. The following sections explain the operation of the ESC's approach for final year capex in an access arrangement period, and the AER's proposed approach to updating the capital base for actual 2012 capex at the next access arrangement review.

Operation of the ESC's approach for final year capex

In applying its capex incentive scheme, the ESC took the following steps:⁴⁶

1. At the time of the ESC's access arrangement review, actual capex for the final year (year 5) of an access arrangement period was not yet known. The ESC therefore included in the capital base roll forward an amount equal to the benchmark capex for that year, as estimated at the earlier access arrangement review. To recognise growth in the network, the ESC adjusted this benchmark capex for growth in customers, meter replacement and replacement of low pressure pipelines.
2. At the next access arrangement review, the ESC included actual capex in the capital base roll forward for the final year of the earlier access arrangement period, replacing the adjusted benchmark capex for that year.
3. The ESC made no adjustment for the accumulated return on capital associated with any difference between actual capex and the adjusted benchmark capex.

The final step allowed the service provider to gain or lose the return on capital associated with the difference between actual and the adjusted benchmark capex for five years. This ensured the power of the capex incentive scheme was the same for the final year as for the other years during the access arrangement period.

AER's approach to updating the capital base for actual capex

The AER does not operate any capex incentive schemes similar to the ESC's. Accordingly, the AER does not typically need to set an adjusted benchmark capex for the final year of an access arrangement period to preserve incentives. Instead, it requires service providers to provide their best forecast of capex for the final year of the access arrangement period. This minimises any difference between forecast and actual capex that needs to be adjusted from the capital base at the next access arrangement review. At the next access arrangement review, the AER will adjust the capital base for:

- the difference between the forecast and actual capex for the final year of the earlier access arrangement period (2017)
- the five year accumulated return on capital associated with the difference between the forecast and actual capex for the final year of the earlier access arrangement period (2017).

The AER has decided not to include a capex incentive scheme for the 2013–17 access arrangement period (see attachment 7). Under the NGR, the AER must ensure that revenue calculations for the 2013–2017 access arrangement period properly reflect increments or decrements resulting from the operation of the ESC's capex incentive mechanism.⁴⁷ This requires the AER to approve an adjusted benchmark capex for 2012, which will be updated for actual capex at the next access arrangement review. At that time, the AER will not adjust the capital base for the five year accumulated return on capital associated with the difference between the adjusted benchmark and actual capex for 2012. This is contrary to the AER's standard approach, as noted above, but is required to properly reflect increments or

⁴⁶ Essential Services Commission, *Gas access arrangement review 2008–12, Final decision*, March 2008, pp. 431–432.

⁴⁷ NGR, Schedule 1, clause 5(1)(a).

decrements resulting from the operation of ESC's capex incentive scheme. Following this, the AER will have completed the application of the ESC's capex incentive scheme.

Reversal of movements in provisions

The AER does not approve the inclusion of movements in capitalised provisions as part of SP AusNet's proposed 2007–11 actual capex. The AER considers these amounts do not meet the requirements of the NGR, since SP AusNet has not yet incurred the expenses to which the provisions relate.⁴⁸ For 2012 these actual movements in provisions are not yet available and will be reversed from actual 2012 capex at the next access arrangement review. The AER considers that capitalised expenses should only be recognised as capex when they are paid out (incurred). The AER's amendments are set out in table 2.8. These amendments increase SP AusNet's capex for rolling into the capital base by approximately \$0.3 million (\$2012).

Table 2.8 AER's reversal of movements in capitalised provisions (\$ million, 2012)

Asset class	2007	2008	2009	2010	2011
Transmission pipelines	–	–	–	–	–
Distribution pipelines	–0.08	–0.02	0.15	0.04	–0.02
Service pipes	–0.04	–0.02	0.16	0.02	–0.01
Cathodic protection	–	–	–	–	–
Supply regulators/Valve stations	–0.01	–	0.01	–	–
Meters	–0.03	–0.01	0.04	0.01	–
SCADA and remote control	–	–	0.01	–	–
Land and building	–	–	–	–	–
Other - IT	–0.01	–	0.06	0.01	–
Other - Non IT	–0.04	–	–	–	–
Total	–0.17	–0.05	0.43	0.09	–0.04

Source: AER analysis.

Note: Totals may not add due to rounding.

Movements in provision accounts are capitalised cash flows that SP AusNet has set aside for paying future liabilities. The timing and exact amount of these liabilities are usually uncertain. SP AusNet has not yet paid out the cash as accounted for, but has set aside cash to prepare for having to make payments in the future. The amounts actually paid out can be identified using the total movements between balances of provision accounts. If the closing balance is higher than the opening balance, more money has been set aside in that year than paid out. The opposite occurs when the opening balance is higher than the closing balance.

⁴⁸ NGR, r. 79.

The AER has reversed the value of movements in capitalised provision accounts from SP AusNet's 2007–11 capex amounts to reflect actual cash flows net of movements in provisions. These reversals could be either positive or negative, depending on whether provision accounts are paid into or are paid out from within a year.

The AER required a detailed breakdown of movements in provisions as part of the RIN issued to SP AusNet. SP AusNet provided this information, including annual movements in capitalised provisions. However, these annual movements in capitalised provisions were allocated to capex in total, and not to specific asset classes. Accordingly, the AER sought from SP AusNet a breakdown of movements in provision by asset class. SP AusNet responded that its reporting systems could not provide this breakdown.⁴⁹ The AER has therefore allocated its reversal of movements by:

- determining the total movement in capitalised provisions for a regulatory year
- allocating the total annual movement to individual asset classes by its proportion of total capex in that year.

Reconciliation with regulatory accounts

The AER has made several minor amendments to SP AusNet's proposed capex for the 2008–12 access arrangement period to correct discrepancies with historical regulatory accounts. The AER queried these discrepancies with SP AusNet. SP AusNet submitted a revised RFM to correct for the reconciliation differences.⁵⁰ These amendments reduce SP AusNet's opening capital base as at 1 January 2013 by approximately \$0.2 million, and affect the allocation of disposals and customer contributions between asset classes.

2.4.3 Indexation of the capital base

The AER does not approve SP AusNet's total proposed indexation of the capital base because it will over compensate SP AusNet for the effects of inflation. The AER has applied six years of inflation to calculations in real 2006 dollar terms to determine the opening capital base as at 1 January 2013.

The AER accepts SP AusNet's initial application of six years of actual CPI to inflate real 2006 dollar terms to real 2012 dollar terms. However, the AER does not approve SP AusNet's proposal to adjust the opening capital base at 1 January 2013, valued in real 2006 dollar terms, for a further half year of inflation or six and a half years in total. The AER has therefore adjusted the opening capital base for six years of inflation, or six months less than SP AusNet's proposal. This indexation of the capital base is consistent with the AER's standard approach. This will result in a reduction to SP AusNet's proposed opening capital base as at 1 January 2013 of approximately \$16 million, or 1 per cent.

An approach for indexation of the capital base is necessary to account for the effects of inflation on the real value of an asset at any point in time under the regulatory framework

⁴⁹ SP AusNet, *Response to AER information request 6 regarding movements in capitalised provisions*, 20 June 2012.

⁵⁰ SP AusNet, *Response to AER information request 10 the reconciliation of 2007-2011 proposal capex with SP AusNet's audited regulatory accounts*, 19 June 2012.

applying to SP AusNet. SP AusNet has recognised this by proposing to apply inflation in its capital base roll forward. Under SP AusNet's fixed principle 7.2(3)(A) as approved by the ESC, the opening capital base at the start of the fourth access arrangement period (1 January 2013) must be adjusted to take account of 'changes in CPI over the access arrangement period'.⁵¹ However, it does not specify how this CPI should be calculated. Under the NGR, the AER must take this fixed principle into account.⁵² The AER accepts that it is necessary to index the capital base for inflation, and considers that only one year of inflation should be consistently applied for each regulatory year.

Typically, the AER presents its revenue modelling in nominal dollar terms, which is equivalent to real dollar terms for each year. This requires one year of CPI to be applied to the capital base values each year. In contrast, the ESC applied all of its capital base roll forward modelling in real dollar terms for a fixed year, such as real 2006 dollar terms. The ESC then converted this capital base value using a single CPI adjustment at the end of the access arrangement period. Provided both approaches use the same CPI adjustments and the same capital base inputs, this would result in equivalent values.

All data in the ESC's decision for the 2008–12 access arrangement period were expressed in real 2006 dollar terms. The AER considers that the ESC's further final decision models for the 2008–12 access arrangement period indicate that opex and capex expenditures are assumed to be incurred on average in the middle of the year. The AER considers that the '1 July 2006' label in the ESC's model refers to its assumed timing of opex and capex. However, the closing capital base for each year is valued at the end of that regulatory year.

The AER has reached this conclusion because:

- over the life of the assets in the capital base, the service provider will not be over or under compensated for inflation when both tariffs and the capital base are consistently escalated by the same method for determining the annual change in CPI
- by applying six months of additional inflation, SP AusNet's proposal creates an inconsistency between inflation applied to tariffs and inflation applied to the capital base
- the ESC's cash flow timing assumptions suggest the closing capital base was valued at the end of the regulatory year.

Consistency with the annual tariff variation mechanism

The AER has examined the ESC's models for the 2008–12 access arrangement period. These models confirmed that consistent with the tariff variation mechanism, costs (including the capital base roll forward) prior to 2007 were escalated by annual actual CPI. Annual inflation adjustment to tariffs was based on the annual change in the September–September CPI. Specifically, the inflation adjustment used the annual change in price levels (as represented by the CPI) ending in September before the commencement of the regulatory year in January. For example, the inflation adjustment to the capital base from regulatory year 2006 to regulatory year 2007 would be calculated as the change in CPI from September 2005 to September 2006. The ESC used a CPI that did not perfectly overlap with the regulatory

⁵¹ SP AusNet, *Gas Access Arrangement Revision 2008–12, Part B of the Access Arrangement for the Distribution System—Reference Tariffs and Reference Tariff Policy*, p. 26

⁵² NGR, Schedule 1, clause 5(b).

year because of the timing with making the annual tariff variation before the regulatory year has ended. Therefore, the September–September CPI used by the ESC is a proxy of annual price change in a regulatory year for tariff setting purposes. This particular CPI is used to approximate the annual increases in the economy’s price level over the year that occurred.

The period over which the annual rate of inflation is approximated is not a reference to the price level of expenditures at a particular point in time. Instead it is an approximation of inflation for a regulatory year based on the change in CPI over an annual period three months prior to the regulatory year. The AER also uses the September–September CPI for calendar year regulatory control periods because it is the most recent index available at the time when tariffs are approved.⁵³ The AER applies this CPI approach in both tariff variation mechanisms and in the roll forward model.

The AER’s capital base roll forward employs cash flow timing assumptions that are broadly the same as the ESC’s approach. These are:

- the opening capital base is at the start of the regulatory year
- the closing capital base is at end of the regulatory year
- capex is incurred on average in the middle of the regulatory year.⁵⁴

Accordingly, the AER and the ESC approaches result in consistent treatment of CPI between asset values and the CPI–X tariff variation mechanism. The AER considers that by applying six months of additional inflation, SP AusNet’s proposal creates an inconsistency between inflation as applied to the tariffs and inflation as applied to the capital base.

Analysis of the ESC’s cash flow timing assumptions

The ESC addressed proposals for working capital in its decision for the 2003–07 access arrangement. To assess the proposals, the ESC defined a revenue benchmark to ensure that the net present value (NPV) of revenue would equate to the NPV of costs (the NPV=0 condition). The ESC’s analysis was not directly related to inflation, but it demonstrated aspects of the ESC’s assumptions about the timing of cash flows. From these assumptions, the AER can draw inferences about the intended application of inflation. The ESC set out its revenue benchmark as shown in figure 2.1.

Figure 2.1 Analysis of the ESC’s cash flow timing assumptions

$$-RAB_{Open} + \sum_{i=1}^{365} \frac{R_i - O \& M_i - Capex_i}{(1+r)^{i/365}} + \frac{RAB_{Close}}{(1+r)} = 0$$

where $O \& M_i$ is the operating and maintenance expenditure on day i , $Capex_i$ is the capital expenditure on day i , RAB_{Open} and RAB_{Close} are the regulatory asset values at the start and finish of the year, and r is the (effective annual) discount rate.⁵³⁷

⁵³ AER, *Final decision Victorian electricity distribution network service providers Distribution determination 2011–2015*, October 2010, p. 455.

⁵⁴ Essential Services Commission, *Review of gas access arrangements, Final decision*, October 2002, p. 425–426.

Source: Essential Services Commission, *Review of gas access arrangements, Final decision*, October 2002, p. 429.

This formula is consistent with the ESC's cash flow timing assumptions.⁵⁵ It implies that the building block expenditures are incurred at various points throughout the year, with costs on a particular day (day *i*) identified by the subscript '*i*'. To make sure that the NPV=0 condition is met, revenues were set precisely equal to costs. To achieve this, all costs were therefore discounted using the change in price levels from the start of the year to the day on which the expenditures are incurred. Further, all revenues (and prices) were discounted by the change in price levels. For example, expenditures on the 100th day of an access arrangement period would need to be discounted by exactly the inflation in prices from day 1 of the period to day 100.

In practice it is not feasible to measure changes in the price level for every day of a year, or to forecast or measure precisely on which days of an access arrangement period the expenditures are incurred. It is also not practically possible to update tariffs (and therefore revenues) on a daily basis. As a result, it is necessary to use a simplifying assumption, such as an assumption that operating or capital expenditures are incurred evenly throughout the year. Under this assumption, these expenditures are adjusted for inflation on an annual basis.

Similarly, the ESC considered the appropriate discount rate between the opening capital base and the closing capital base is exactly one full year of change in the price level, approximated by the CPI. The AER will use the same annual CPI method as the ESC used to update tariff levels for the purposes of rolling forward the capital base. Therefore, the AER considers it is incorrect to add an additional six months of inflation to convert the closing capital base for 2012 into the opening capital base for 2013. This would create an inconsistency between how tariffs have been updated and the way the capital base is updated in the roll forward process.

2.4.4 Depreciation used in the 2008–12 access arrangement period

The AER approves SP AusNet's proposal to roll forward the capital base to 1 January 2013 using forecast depreciation (straight-line method) as approved in the previous access arrangement review for the 2008–12 access arrangement period. The use of forecast depreciation to determine the opening capital base is consistent with the AER's standard approach to depreciation for gas distribution service providers.⁵⁶

Under the NGR, the AER must subtract from the capital base depreciation calculated in accordance with the relevant access arrangement.⁵⁷ In its previous access arrangement review, the ESC calculated a benchmark depreciation allowance for SP AusNet, based on its forecast capex allowance over the 2008–12 access arrangement period.⁵⁸ The ESC had also previously used forecast depreciation to determine the opening capital base. The AER

⁵⁵ Essential Services Commission, *Review of gas access arrangements, Final decision*, October 2002, p. 425–426.

⁵⁶ For example, AER, *Final decision: Jemena access arrangement proposal*, June 2010, p. 92; AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 13; AER, *Final decision: Envestra access arrangement Qld*, June 2011, p. 25; AER, *Final decision: Envestra access arrangement SA*, June 2011, p. 28.

⁵⁷ NGR, r. 77(2)(d).

⁵⁸ Essential Services Commission, *Gas access arrangement review 2008–12, Final decision*, March 2008, p. 439.

therefore accepts that SP AusNet's proposed approach is consistent with the relevant provisions in the 2008–12 access arrangement.

2.4.5 Projected capital base during the 2013–17 access arrangement period

The AER's forecast of SP AusNet's projected capital base at 31 December 2017 is \$1587.8 million (\$nominal), a reduction of \$134.6 million (nominal) or 7.8 per cent from SP AusNet's proposal. This accords with the AER's draft decision on the inputs to the determination of the projected capital base. The AER has amended the following inputs:

- Reduced SP AusNet's opening capital base as at 1 January 2013 to \$1261.6 million or by 2 per cent to reflect the changes required in this attachment.
- Reduced SP AusNet's proposed forecast net capex allowance by \$126.0 million (\$nominal) or 21.8 per cent. The AER's detailed assessment of the proposed forecast capex allowance is set out in attachment 3.
- Reduced SP AusNet's proposed forecast depreciation allowance by \$22.3 million (\$nominal) or 15.1 per cent. The AER's assessment of the proposed forecast depreciation is set out in attachment 5.
- Updated forecast inflation of 2.50 per cent per annum for the 2013–17 access arrangement period. While the AER accepts SP AusNet's proposed approach to estimate forecast inflation, the AER has updated the forecast for this draft decision. The AER's assessment of SP AusNet's proposed forecast inflation is set out in attachment 4.

The capital base at the commencement of the 2018–22 access arrangement period will be subject to adjustments consistent with the NGR.⁵⁹ These adjustments are not limited to, but include:

- the difference between actual and forecast capex for 2012 (the final year of the 2008–12 access arrangement period)
- actual inflation and approved depreciation over the 2013–17 access arrangement period.

The AER accepts SP AusNet's proposal to use forecast regulatory depreciation approved in the final decision for the 2013–17 access arrangement period to establish SP AusNet's opening capital base as at 1 January 2018.⁶⁰ The AER approved such an approach in the decisions for Jemena Gas Networks (JGN), APT Allgas, and Envestra networks.⁶¹ This approach is also consistent with the approach outlined in the AER's Access Arrangement Guideline.⁶²

⁵⁹ NGR, r. 77(2).

⁶⁰ SP AusNet, *Access arrangement information*, March 2012, p. 166–167.

⁶¹ AER, *Final decision: Jemena access arrangement proposal*, June 2010, p. 92; AER, *Final decision: APT Allgas access arrangement*, June 2011, p. 13; AER, *Final decision: Envestra access arrangement Qld*, June 2011, p. 25; AER, *Final decision: Envestra access arrangement SA*, June 2011, p. 28.

⁶² AER, *Final access arrangement guideline*, March 2009, pp. 65–66.

2.5 Revisions

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

Revision 2.1: Make all necessary amendments to reflect the AER's draft decision on the roll forward of the capital base for the 2008–12 access arrangement period, as set out in table 2.1.

Revision 2.2: Make all necessary amendments to reflect the AER's draft decision on the projected opening capital base for the 2013–17 access arrangement period, as set out in table 2.2.

Revision 2.3: Make all necessary amendments to reflect the AER's draft decision on net capex by asset class during the 2008–12 access arrangement period, as set out in Table 2.6.

3 Capital expenditure

This attachment outlines the AER's assessment of SP AusNet's proposed capital expenditure (capex) for 2007–11 and forecast capex for the 2013–17 access arrangement period.

3.1 Draft decision

Conforming capital expenditure for 2007–11

The AER approves SP AusNet's proposed \$354.7 million (\$2012) total net capex for 2007–11 as conforming capex under r. 79(1) of the NGR. Table 3.9 shows approved capex for 2007–11 by category.

For the purpose of the capital base roll forward, the AER has adopted the ESC's benchmark capex for 2012, adjusted for actual growth.

Table 3.9 AER approved capex by category over 2007–12 (\$million, 2012)

Category	2007	2008	2009	2010	2011	2012 ^(a)
Mains replacement	6.9	9.7	8.8	11.6	12.5	15.5
Residential connections	28.5	34.3	35.1	36.5	35.7	30.1
Commercial/industrial connections	6.7	6.1	3.2	2.8	5.5	5.5
Residential meter replacement	2.6	4.5	1.1	1.4	1.6	4.0
Commercial/industrial meter replacement	0.4	0.5	0.2	0.1	0.4	1.1
Augmentation	2.7	2.8	1.0	0.6	3.6	1.3
IT	2.4	1.9	10.4	9.9	10.0	4.6
SCADA	0.5	0.0	1.4	0.7	0.7	0.4
Other	1.4	3.1	3.3	2.5	3.9	4.2
Overheads	7.5	12.5	11.1	10.6	11.9	8.9
GROSS TOTAL	59.5	75.4	75.5	76.7	85.8	75.6
Adjustments for movements in provisions ^(b)	-0.2	-0.0	0.4	0.1	-0.0	
ADJUSTED Gross TOTAL	59.3	75.3	76.0	76.8	85.8	75.6
Customer contributions	3.7	4.1	3.4	3.6	3.6	4.0
Government contributions						
NET TOTAL	55.6	71.3	72.6	73.2	82.1	71.6

Source: AER analysis.

Notes: (a) The AER has approved 2012 capex values equal to the ESC's benchmark capex, adjusted for actual growth. This is consistent with the ESC's capex incentive scheme and is discussed in section 2.4.2.

(b) The adjustment for movements in provisions is considered in section 2.

Conforming capital expenditure for the 2013–17 access arrangement period

The AER approves \$411.0 million (\$2012) of SP AusNet's proposed \$528.5 million (\$2012) total net capex for the 2013–17 access arrangement period.⁶³

Table 3.10 shows approved capex over the 2013–17 access arrangement period by category.

Table 3.10 AER approved capital expenditure by category over the 2013–17 access arrangement period (\$million, 2012)^(a)

Category	2013	2014	2015	2016	2017
Mains replacement	16.4	15.1	13.4	11.3	12.4
Residential connections	33.2	33.2	33.1	32.8	32.8
Commercial/ industrial connections	3.0	3.1	3.1	3.1	3.2
Residential meter replacement	4.8	5.1	4.5	4.3	4.2
Commercial/ industrial meter replacement	0.9	1.0	1.0	1.0	1.1
Augmentation	6.1	5.9	6.8	1.0	2.2
IT	13.6	13.0	6.9	7.5	7.6
SCADA	0.9	0.8	0.9	0.8	0.8
Other	2.5	4.2	4.8	4.7	3.7
Gas Extensions-NGEP	1.5	1.0	0.1	0.1	0.0
Capital overheads	11.6	11.6	11.6	11.6	11.6
Total gross capital expenditure	94.5	94.0	86.2	78.3	79.7
Customer contributions	2.8	2.9	3.0	3.1	3.1
Government contributions	1.0	2.7	1.0	1.0	1.1
Total net capital expenditure	90.7	88.4	82.2	74.2	75.5

Source: AER analysis.

Notes: (a) AER approved capital expenditure includes AER material and labour escalation adjustments.

⁶³ AER approved capital expenditure includes AER material and labour escalation adjustments.

Table 1.3 shows SP AusNet's proposed capex compared with the AER's approved allowance for each category.

Table 3.11 Comparison of AER approved and SP AusNet's proposed capital expenditure over the 2013–17 access arrangement period (\$million, 2012)^(a)

Category	SP AusNet proposed	AER approved	Difference
Mains replacement	141.1	68.6	-51.4%
Residential connections	182.7	165.1	-9.6%
Commercial/industrial connections	19.7	15.6	-20.7%
Residential meter replacement	23.7	22.8	-3.6%
Commercial/industrial meter replacement	5.2	5.0	-4.3%
Augmentation	23.1	22.0	-4.9%
IT	55.3	48.6	-12.1%
SCADA	4.5	4.2	-5.0%
Other	24.4	19.9	-18.6%
Gas Extensions-NGEP	2.8	2.8	0.0%
Capital overheads	68.2	57.9	-15.1%
Total gross capital expenditure	550.8	432.6	-21.4%
Customer contributions	15.5	14.9	-3.6%
Government contributions	6.8	6.8	0.0%
Total net capital expenditure	528.5	411.0	-22.2%

Source: AER analysis, SP AusNet.

Notes: (a) AER approved capital expenditure includes AER material and labour escalation adjustments.

(b) The SP AusNet proposed total presented in this table does not equal the amount in SP AusNet's Access Arrangement Information due to revisions in response to information requests received by the AER.

The reasons for the AER's reductions are:

- The LP to HP mains replacement program volumes are reduced in line with the annual average volumes delivered over the 2008–11 period. A pass through provision is provided to allow for changes in circumstances that may encompass a change in volumes. The average unit rate is reduced on the basis that with the reduction in volumes the lowest cost areas will be delivered first.
- The miscellaneous mains replacement program expenditure is reduced after adjusting for inconsistencies in SP AusNet's method for forecasting the 2013–17 volumes and unit rates for the program.
- The medium pressure mains replacement program is not approved as it is not necessary nor efficient and prudent to proactively replace medium pressure distribution mains in the 2013–2017 access arrangement period.
- Some minor specific mains replacement programs are not approved as is not necessary nor efficient and prudent to proactively replace these types of distribution mains.
- The upwards trend in service renewal volumes within the reactive mains service replacement program is reduced to an annual average of the 2008–11 actual volumes on the basis that service renewals are expected to remain around the current average amounts.
- For Tariff V residential and commercial/industrial connections, the abolishment volume is reduced from an upward trend to an annual average of the 2008–11 actual volumes reflecting that abolishments are not expected to vary significantly from the current levels. The contingency on Tariff V residential and commercial/industrial connections unit rates are removed.
- For IT the proposed contingency allowance is reduced, the labour component of several IT programs is reduced to industry standard amounts and the NECF-related costs are removed as NECF is not currently a regulatory obligation.
- Certain projects in "Other non-demand" capex are not approved as these projects would not be undertaken by a prudent and efficient service provider.
- Overheads are reduced to the annual average of the overheads expenditure for 2008-11 to reflect that the scale of SP AusNet's business is not expected to change significantly from the 2008-12 access arrangement period and so overheads should not change significantly.
- Material and labour cost escalation is reduced.

3.2 SP AusNet's Proposal

2007–11 period

SP AusNet proposed net total capex of \$354.5 million (\$2012) for 2007–11. This is 3.6 per cent below the benchmark allowance approved by the ESC.

Table 3.12 SP AusNet proposed conforming capital expenditure over 2007–12 (\$million, 2012)

	2007	2008	2009	2010	2011	2012 ^(a)
Mains replacement	6.9	9.7	8.8	11.6	12.5	16.6
Residential connections	28.5	34.3	35.1	36.5	35.7	33.9
Commercial/industrial connections	6.7	6.1	3.2	2.8	5.5	3.2
Residential meter replacement	2.6	4.5	1.1	1.4	1.6	3.3
Commercial/industrial meter replacement	0.4	0.5	0.2	0.1	0.4	0.7
Augmentation	2.7	2.8	1.0	0.6	3.6	4.3
IT	2.4	1.9	10.4	9.9	10.0	15.4
SCADA	0.5	0.0	1.4	0.7	0.7	0.5
Other	1.4	3.1	3.3	2.5	3.9	7.3
Overheads	7.5	12.5	11.1	10.6	11.9	12.5
GROSS TOTAL	59.5	75.4	75.5	76.7	85.8	97.6
Customer contributions	3.7	4.1	3.4	3.6	3.6	3.8
Government contributions						
NET TOTAL	55.7	71.3	72.2	73.1	82.2	94.0

Source: SP AusNet RIN

Note: (a) The 2012 figures represent forecast actual capex from SP AusNet's RIN and not the proposed inputs into the ECM, which are based on the ESCV's forecast in accordance with the ESC's capex incentive scheme.

2013–17 access arrangement period

SP AusNet proposed net total capex of \$528.5million (\$2012) for the 2013–17 access arrangement period. This represents a real increase of 37 per cent over the approved allowance for the 2008–12 access arrangement period. The AER notes that SP AusNet provided a number of updated information sources to the AER during the AER's assessment. The AER has incorporated these information sources into Table 3.12.

Table 3.13 SP AusNet proposed conforming capital expenditure 2013–17 (\$million, \$2012)⁶⁴

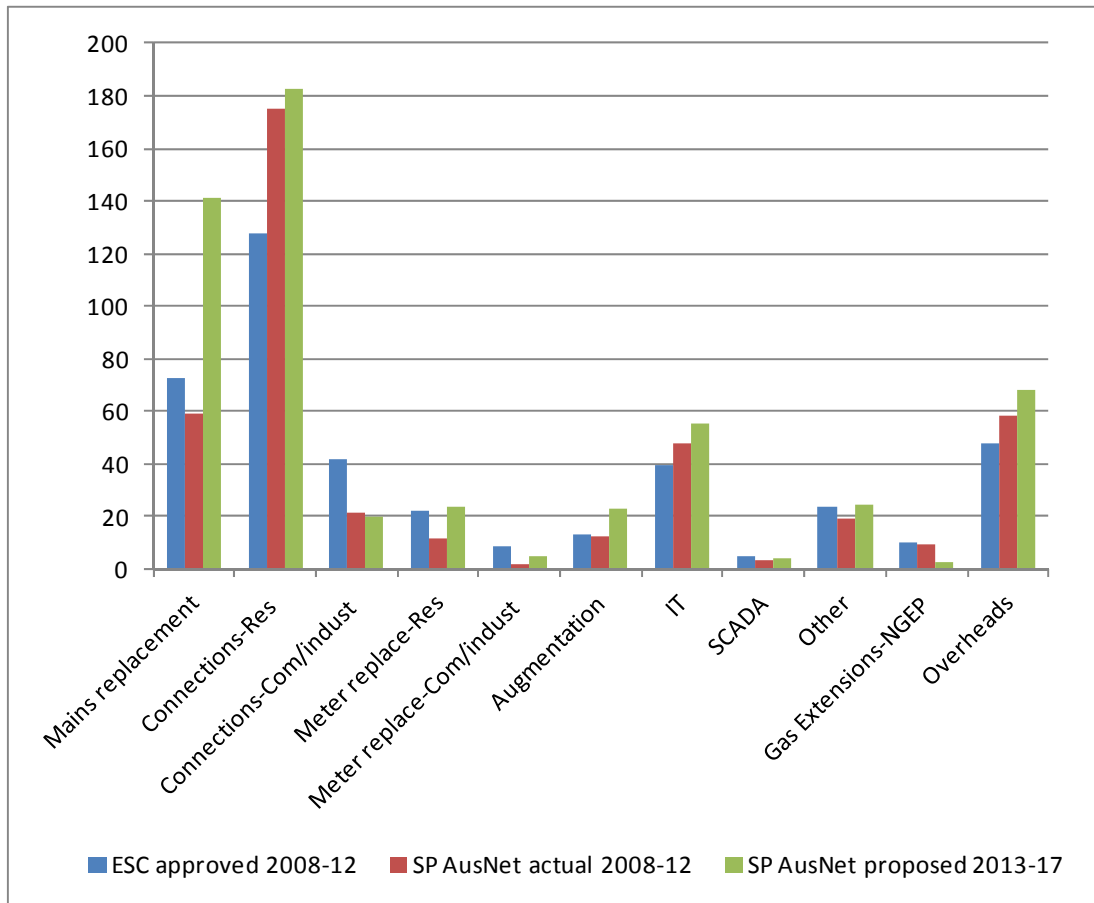
Category	2013	2014	2015	2016	2017	Total 2013–17
Mains replacement	24.9	26.5	28.2	28.5	33.0	141.1
Residential connections	34.9	35.9	36.5	37.1	38.5	182.7
Commercial/industrial connections	3.5	3.8	3.9	4.1	4.3	19.7
Residential meter replacement	4.8	5.2	4.6	4.5	4.5	23.7
Commercial/industrial meter replacement	0.9	1.0	1.0	1.1	1.2	5.2
Augmentation	6.2	6.2	7.2	1.0	2.5	23.1
IT	16.3	14.6	7.7	8.1	8.7	55.3
SCADA	0.9	0.9	0.9	0.8	0.9	4.5
Other	3.0	5.7	6.3	5.1	4.3	24.4
Gas Extensions-NGEP	1.5	1.0	0.1	0.1	0.0	2.8
Overheads	13.2	13.5	13.4	13.8	14.2	68.2
GROSS TOTAL	110.1	114.3	109.9	104.3	112.1	550.8
Customer contributions	2.9	3.0	3.1	3.2	3.3	15.5
Government contributions	1.0	2.7	1.0	1.0	1.1	6.8
NET TOTAL	106.2	108.6	105.8	100.1	107.8	528.5

Source: SP AusNet RIN, adjusted.

Note: (b)The SP AusNet proposed total presented in this table does not equal the amount in SP AusNet's Access Arrangement Information due to revisions provided in response to information requests received by the AER.

⁶⁴ The AER notes that SP AusNet provided a number of updated information sources to the AER during the AER's assessment. The AER has incorporated these information sources into Table 3.13. As such, the numbers presented in this table do not reconcile with the public version of SP AusNet's submission.

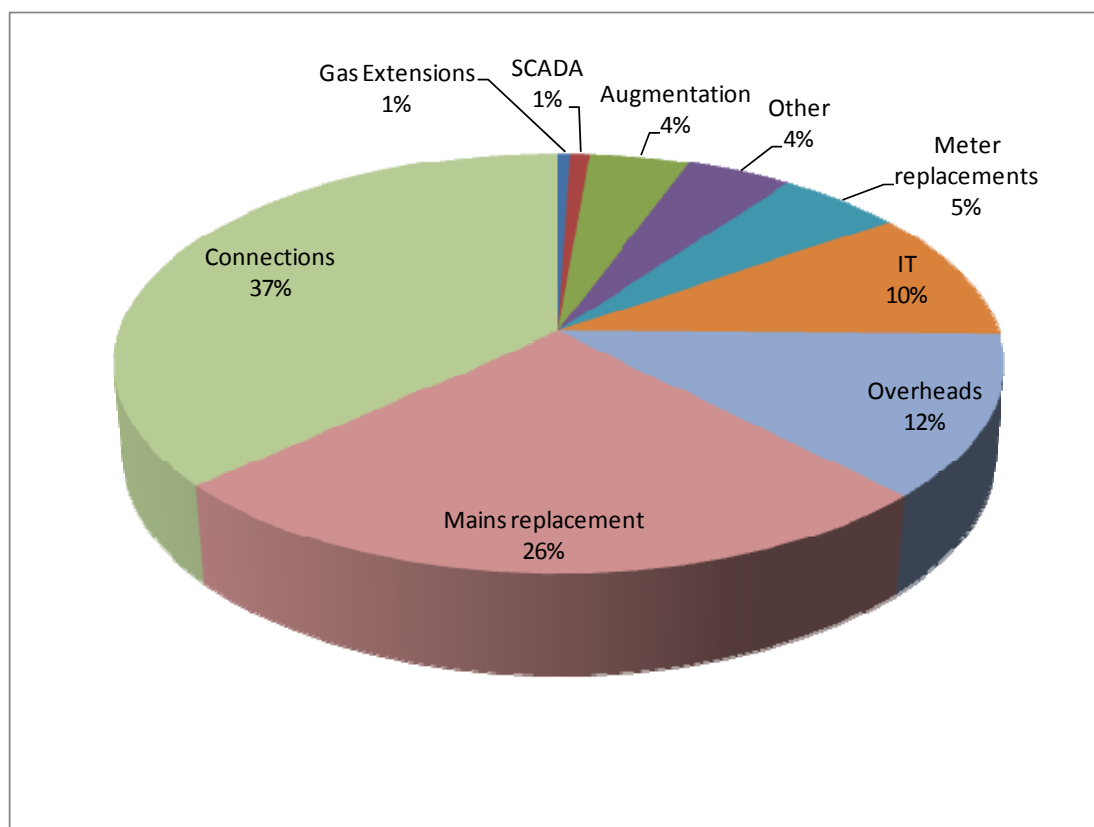
Figure 3.1 Comparison of SP AusNet’s past approved actual and proposed total capex and AER draft determination (\$million, 2012)



Source: AER analysis

The major components of the forecast gross total capex are customer connections (37 per cent) mains replacement (26 per cent), overheads (12 per cent) and information technology (10 per cent) (see Figure 3.2 below).

Figure 3.2 Composition of SP AusNet’s proposed total capex for 2013-17 (\$million, 2012)



Source: AER analysis

3.3 Assessment approach

NGR requirements for conforming capital expenditure

The AER must accept, as part of the opening capital base for the access arrangement period, any conforming capex made (or to be made) during the earlier access arrangement period.

The AER must also consider forecast conforming capex for the access arrangement period as part of calculating the projected capital base for the access arrangement period.⁶⁵

Capex will be conforming if it:

- meets the definition of capex in r. 69 of the NGR. Capex is defined as costs and expenditure of a capital nature incurred to provide, or in providing, pipeline services
- is based on a forecast or estimate which is supported by a statement of the basis of the forecast or estimate as set out in r. 74(1) of the NGR. Any forecast or estimate submitted must:
 - be arrived at on a reasonable basis

⁶⁵ NGR, r. 78.

- represent the best forecast or estimate possible in the circumstances⁶⁶
- conforms with the capex criteria in r. 79 of the NGR. There are two essential criteria that must both be met under this rule:
 - The expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of providing services; and
 - The expenditure must be justifiable on one of four grounds set out in r. 79(2) of the NGR.

The four grounds set out in r. 79(2) of the NGR can be summarised as follows. The capex must either:

- have an overall economic value that is positive
- demonstrate an expected present value of the incremental revenue that exceeds the expenditure
- be necessary to maintain and improve the safety of services, or maintain the integrity of services, or comply with a regulatory obligation or requirement, or maintain capacity to meet levels of demand existing at the time the capex is incurred; or
- be justifiable as a combination of the preceding two dot points.

The AER has limited discretion when making decisions under r. 79(5) and r. 40(2) of the NGR.⁶⁷ The AER must approve a particular element of the access arrangement proposal if that element complies with the applicable requirements of the NGR and NGL and is consistent with any criteria set out in the NGR or NGL.

Assessment of conforming capital expenditure

The AER considers the access arrangement information provided by SP AusNet in assessing SP AusNet's proposed capex. The AER will not approve certain information and forecasts provided by SP AusNet if the information does not meet the requirements set out in the NGR.⁶⁸ The AER must exercise its economic regulatory functions in a manner that will or is likely to contribute to the achievement of the NGO.⁶⁹ For instance, having regard to the NGO, the AER takes the view that a prudent service provider will seek cost efficiencies through continuous improvements, and that customers ultimately share in these benefits. This also provides the service provider with a reasonable opportunity to recover at least its efficient costs in accordance with the revenue and pricing principles.

In assessing SP AusNet's proposed capex in the earlier access arrangement period, the AER reviewed SP AusNet's supporting material. This included information on SP AusNet's reasoning and, where relevant, business cases, audited regulatory accounts, and other

⁶⁶ NGR, r. 74(2).

⁶⁷ NGR, r. 40(2), r. 79(5).

⁶⁸ For instance, r. 74 of the NGR requires estimates and forecasts to be made on a reasonable basis, amongst other things.

⁶⁹ NGL s. 28(1).

relevant information. This information helped the AER identify the need for the capex over the earlier access arrangement period and, in turn, whether that capex should be included in the opening capital base in accordance with r. 77 (2)(b) of the NGR.

Although the capital base roll forward relates to the 2008–12 access arrangement period, the AER is also required to adjust for the difference between actual and forecast capex in the capital base⁷⁰. Generally, the final year of the previous access arrangement period is based on forecast capex (in this case, 2007). Therefore, the AER's assessment of conforming capex includes the regulatory years for 2007–11. This is because:

- 2007 capex—at the previous access arrangement review, the ESC did not yet have actual capex for 2007. The ESC therefore included in the capital base benchmark (forecast) capex for 2007, adjusted for actual growth. Since actual capex is now available for 2007, the AER has assessed whether SP AusNet's actual capex for 2007 is conforming capex under the NGR⁷¹. This conforming capex is then included in the capital base roll forward⁷²
- 2008–11 capex—for this access arrangement review, the AER has the actual capex for 2008–11. Consistent with 2007 capex, the AER has assessed whether SP AusNet's actual capex for 2008–11 is conforming under the NGR for inclusion in the capital base roll forward⁷³
- 2012 capex—for this access arrangement review, the AER does not yet have actual capex for 2012. The AER is required under the NGR to properly reflect any increments or decrements arising from the operation of the ESC's capex incentive scheme⁷⁴. The AER has therefore adopted the ESC's approach for 2012 capex. This requires the AER to include in the capital base roll forward benchmark (forecast) capex for 2012, adjusted for actual growth. At the next access arrangement review, the AER will assess whether SP AusNet's actual capex for 2012 is conforming capex under the NGR⁷⁵.

The AER's detailed analysis of the capex incentive scheme is set out in attachment 7, and its application to the capital base roll forward is addressed in attachment 2.

In making its assessment of whether SP AusNet's proposed capex in the projected capital base complies with the capex criteria in r. 79(1) of the NGR, the AER assessed the key drivers of capex. In making its decision on SP AusNet's proposed capex the AER relied upon the following information:

- The access arrangement information (AAI) - this document outlines SP AusNet's program of capital expenditure and describes the main drivers of increased capital expenditure
- The Asset Management Strategy, Asset Management Plan and appendices which provided specific expenditure detail⁷⁶
- Appendix 4A - Gas Demand Forecasting (CIE) report and Demand Model - CIE.xls

⁷⁰ NGR r. 77(2)(a).

⁷¹ NGR r.79.

⁷² NGR r.77(2)(b).

⁷³ NGR r. 79 and 77(2)(b).

⁷⁴ NGR, Schedule 1 clause 5(1)(a).

⁷⁵ NGR r.79.

⁷⁶ SP AusNet, *Access Arrangement Information: Appendices 5J.1–5J.9*, March 2012.

- RIN Template - SPN GAAR RIN template 300312.xls
- Final Capital Mapping Spreadsheet 28-3-2012.xls
- Submissions received in the course of consulting on the access arrangement proposal⁷⁷

Initially the AER assessed whether the proposed capex is justified on one of the four grounds under r. 79(2) of the NGR.

The AER then assessed the prudence and efficiency of the proposed capex. For analysis purposes the capex was broken into categories depending on whether the expenditure is driven by:

- Growth in demand - extensions, connections, augmentation
- Replacement on the basis of asset life, obsolescence, safety or regulatory obligations - mains, services, meters, regulators, city gates, IT, SCADA, or
- Other - new regulatory or safety obligations, opex or reliability improvements.

For each category of expenditure, the scope, timing and cost of the proposed expenditure was considered in order to form a view on the prudence and efficiency of the expenditure. The assessment also considered whether cost forecasts have been arrived at on a reasonable basis and represent the best forecast possible in the circumstances.

A combination of the following approaches were used by the AER to assess efficiency and prudence of SP AusNet's proposed capex:

Assessing competitive tender processes for outsourced activities

Outsourcing to specialist providers of a particular service is a common means by which businesses in the economy are able to gain access to economies of scale and scope and other efficiencies.

Where the gas businesses have used tendered rates as the basis of proposed unit costs, the AER relied on its conceptual approach to assessing outsourcing arrangements. This approach is outlined in its Final decision for the Victorian electricity distribution network service providers Distribution determination 2011–15.⁷⁸

The first stage of the conceptual framework is a 'presumption threshold' designed to be an initial filter to determine which contracts can be presumed to reflect efficient costs that would be incurred by a prudent operator.

In undertaking this 'presumption threshold' assessment, the AER considers:

- Did the service provider have an incentive to agree to non-arm's length terms at the time the contract was negotiated (or at its most recent re-negotiation)?

⁷⁷ Submissions were received from the Energy Users Coalition of Victoria, Origin Energy, AGL and Australian Power and Gas.

⁷⁸ AER, *Final decision for the Victorian electricity distribution network service providers, Distribution determination 2011–2015*, October 2010, pp.150–151.

- If yes, was a competitive open tender process conducted in a competitive market?

In the absence of an incentive to agree to non-arm's length terms, the AER considers it reasonable to presume a contract price reflects efficient costs. The AER also considers this presumption to be reasonable where an incentive to agree to non-arm's length terms exists but the contract was the outcome of a competitive open tender process in a competitive market.

Where an arrangement 'passes' the presumption threshold, the AER considers the starting point for setting future expenditure allowances should be the contract price itself, with limited further examination required. This further examination involves checking whether the contract wholly relates to the relevant services and whether the (efficient) contract price already compensates for risks or costs provided for elsewhere in the building blocks.

The AER used the results of a competitive tender process as the basis for assessing efficient costs for the Meter replacement capex for SP AusNet.

Revealed cost approach

The revealed cost approach considers information revealed by the past performance of a gas business. Under the ex ante regime, gas businesses are rewarded for spending less capex than allowed by the regulator. This incentive enables the AER to place some reliance on the historical costs of a gas business when reviewing its forecast capex. The AER used historical costs and volumes as an indicator of efficient costs and volumes for the Victorian gas businesses. In particular the AER used historical total costs, unit costs and volumes in assessing connections, mains and services replacements, and IT.

The revealed cost approach is an accepted industry practice. Many gas businesses, including SP AusNet, have used this approach to forecast expenditure proposals. This approach has also been used previously by the ESC in its assessment of access arrangement proposals for the Victorian gas businesses and by the AER in its past reviews.

Benchmarking against the other businesses' proposed unit costs and volumes

The AER also conducted comparative analysis of unit costs SP AusNet has used to develop its capex forecast. In particular, the AER undertook a high level benchmarking of a selection of SP AusNet's unit costs against similar unit costs of the other Victorian gas businesses. Where required some adjustment for compositional difference was made. This comparison was used for assessing connections, mains and services replacements, meter replacements, SCADA and IT.

Where this benchmarking indicated that SP AusNet's capex may not be efficient, the AER undertook a detailed review of SP AusNet's proposal. The AER's detailed review involved consideration of relevant documentation and the impact of factors expected to differ from the past and/or from the other Victorian gas businesses.

The AER recognises that forecast efficient costs may legitimately depart from those revealed through past performance, and compared with other gas businesses. For example, gas businesses may discover more efficient processes over time. The gas businesses may propose they can best achieve their safety, reliability or regulatory obligations by incurring expenditure to implement new, more efficient processes, and include such expenditure in their proposed forecast capex. The AER assumed that operating processes would only be

changed (from revealed, or otherwise efficient processes) if they are likely to result in efficiency gains (in the absence of any information to support other reasons for the change). Where the AER considered that future cost savings should result from capex investments, the AER took this into consideration in determining SP AusNet's opex allowance.

Specialist technical advice

The AER engaged Nous Group to provide technical advice on the prudence and efficiency of IT projects. The AER engaged Zincara to provide engineering technical advice on the prudence and efficiency of augmentation projects and the medium pressure and minor specific mains replacement programs.

Cash flow analysis for equity raising costs

To determine the amount of equity raising costs, the AER undertook an assessment of benchmark cash flows calculated in the PTRM. Under this method, a prudent service provider, acting efficiently will first exhaust the cheapest sources of funding through the use of internal cash flows before using more expensive external sources of equity financing. The cash flow modelling approach used by the AER incorporates this assumption to determine if any external equity financing would be required based on the AER's capex forecast for SP AusNet.

3.4 Reasons for decision

3.4.1 Conforming capital expenditure for 2007–11

The AER considers that the \$354.7 million (\$2012) net capex incurred by SP AusNet over 2007–11 complies with r. 79(1) of the NGR.

In reaching this view, the AER has considered the following factors:

- SP AusNet's capex was 3.6 per cent below the ESC approved amount of \$367.7 million (\$2012) (see table 3.14).
- SP AusNet spent less than the ESC benchmark allowance in eight out of ten categories.
- In two categories SP AusNet spent more than the ESC benchmark allowance.
- In seven categories, SP AusNet underspent the ESC benchmark allowance by more than 10 per cent:
 - SP AusNet spent 25 per cent less than the ESC benchmark allowance for low pressure mains replacement. This was largely attributable to SP AusNet delivering an average of 71 km per year, compared with the ESC approved amount of 87 km per year (a 19 per cent under delivery). SP AusNet attributed the underspend to difficulty accessing capital and greater than forecast numbers of connections which necessitated diverting capital away from mains replacement in order to fund connections.⁷⁹
 - SP AusNet spent 53 per cent less than the ESC benchmark allowance for residential meter replacements. The underspend was due to a high proportion of meters passing meter sampling tests and therefore a lower volume of replacements than forecast. In addition, unit rates for residential meters were approximately 19 per cent lower than expected due to favourable contract conditions.⁸⁰
 - SP AusNet spent 78 per cent less than the ESC benchmark allowance for Industrial and Commercial meter replacements. The underspend was due to a high proportion of meters passing meter sampling tests and therefore a lower volume of replacements than forecast.⁸¹
 - Augmentation expenditure was 25 per cent below the ESC benchmark allowance. SP AusNet underspent compared with their 2007-10 approved amounts, however it has over spent the 2011 benchmark due to unexpected augmentation in response to greater than forecast growth across the network, in particular for transmission pipeline reinforcement required in Torquay⁸².

⁷⁹ SP AusNet, *Access Arrangement Information*, March 2012, p. 49. (SP AusNet, *Access Arrangement Information*, March 2012).

⁸⁰ SP AusNet, *Access Arrangement Information*, March 2012, p. 50.

⁸¹ SP AusNet, *Access Arrangement Information*, March 2012, p. 50.

⁸² SP AusNet, *Access Arrangement Information*, March 2012, p. 52.

- Expenditure on SCADA hardware was 33 per cent lower than the benchmark allowance approved by the ESC.
- SP AusNet spent 42 per cent less than the ESC benchmark allowance for other capex.
- In two other categories, SP AusNet spent more than 10 per cent over the ESC benchmark allowance:
 - New residential connections expenditure was 36 per cent over the benchmark allowance. SP AusNet attributed this outcome to a greater number of new connections than forecast in every year and higher unit costs due to greater cost pressure because of market conditions.⁸³ The actual number of new residential connections was 29 per cent higher than the ESC approved number of connections. The AER considers this to be prudent as distribution businesses have a regulatory obligation to connect customers. Unit costs for residential connections were approximately 7.2 per cent higher than the ESC approved benchmarks.⁸⁴
 - Overhead expenditure was 15 per cent higher than the ESC benchmark allowance. SP AusNet was unable to explain this variance.⁸⁵
- Additionally, IT capex was 4.8 per cent below the ESC benchmark allowance. SP AusNet attributed this to lower actual costs in 2008 and 2009 for IT-related SCADA and the deferral of gas outage management systems to align with the migration of customers to SP AusNet's Customer Information System.⁸⁶
- SP AusNet's consultants, AECOM, reviewed SP AusNet's capex over 2008–10 and concluded that the expenditure conformed with r. 79(1)(a) of the NGR.⁸⁷

⁸³ SP AusNet, *Gas Access Arrangement Review - Customer Capital Paper Appendix 5C*, March 2012, p. 7.

⁸⁴ AER, *AER approved spreadsheet*, Driver summary worksheet.

⁸⁵ SP AusNet, *Response to information request 23 of 13 July 2012*, received 23 July 2012, p. 1.

⁸⁶ SP AusNet, *Access Arrangement Information*, March 2012, p. 53.

⁸⁷ SP AusNet, *Access Arrangement Information*, March 2012, p. 52.

Table 3.14 Comparison of ESC approved and SP AusNet actual capital expenditure over 2007–11 (\$million, 2012)

Category	ESC approved	SP AusNet actual	Difference
Mains replacement	66.0	49.5	-25.0%
Residential connections	124.8	170.0	36.2%
Commercial/industrial connections	36.8	24.4	-33.6%
Residential meter replacement	23.8	11.2	-53.2%
Commercial/industrial meter replacement	7.6	1.7	-78.3%
Augmentation	14.4	10.7	-25.4%
IT	36.2	34.5	-4.8%
SCADA	4.8	3.2	-32.8%
Other	24.5	14.2	-42.1%
Overheads	46.7	53.6	14.8%
GROSS TOTAL	385.6	372.9	-3.3%
Customer contributions	17.8	18.4	3.3%
NET TOTAL	367.7	354.5	-3.6%

Source: ESC, SP AusNet.

3.4.2 Conforming capital expenditure for the 2013–17 access arrangement period

The AER approved amounts in this section do not include the AER's adjustment to SP AusNet's proposed labour and material cost escalation factors. For the final AER approved amounts which include these adjustments see Table 3.21. The AER assessment of labour and material cost escalation is in Appendix C.

The AER approves \$431.5 million (\$2012)⁸⁸ of SP AusNet's proposed \$528.5 million total net capex for the 2013–17 access arrangement.

Table 3.15 shows approved capex over the 2013–17 access arrangement period by category.

⁸⁸ Note: AER approved capital expenditure presented here does not include AER material and labour escalation adjustments.

Table 3.15 AER approved capital expenditure by category over the 2013–17 access arrangement period (\$million, 2012)

Category	2013	2014	2015	2016	2017
Mains replacement	16.9	15.9	14.4	12.3	14.0
Residential connections	34.0	34.8	35.3	35.6	36.7
Commercial/industrial connections	3.1	3.3	3.3	3.4	3.5
Residential meter replacement	4.8	5.2	4.6	4.5	4.5
Commercial/industrial meter replacement	0.9	1.0	1.0	1.1	1.2
Augmentation	6.2	6.2	7.2	1.0	2.5
IT	13.6	13.0	6.9	7.5	7.6
SCADA	0.9	0.9	0.9	0.8	0.9
Other	2.5	4.3	5.0	4.9	4.1
Gas Extensions-NGEP	1.5	1.0	0.1	0.1	0.0
Capital overheads	11.6	11.6	11.6	11.6	11.6
Total gross capital expenditure	96.2	97.2	90.3	82.9	86.6
Customer contributions	2.8	2.9	3.0	3.1	3.1
Government contributions	1.0	2.7	1.0	1.0	1.1
Total net capital expenditure	92.3	91.6	86.3	78.8	82.4

Source: AER analysis.

Note: This Table does not include the effects of the AER's adjustments to labour and material escalators

The AER's analysis of the capex categories is presented below.

Mains replacements

Distribution mains are the pipes which convey gas to service pipes at each end user point. The distribution mains replacement program consists of proactive and reactive replacement programs. In general, the proactive program involves upgrading the low and medium pressure mains to high pressure mains. This reduces the safety risk associated with ageing cast iron and unprotected steel pipes and provides increased ability to manage demand growth. Reactive replacement of mains is required where repairs are not possible and urgent replacement of mains is required to manage gas escape.

SP AusNet proposed mains replacement capital expenditure of \$141.1 million (\$2012, escalated direct costs, excluding overheads) for the 2013–17 access arrangement period for the continuation of its current low pressure block rollout mains replacement (including a miscellaneous mains replacement allowance) and ad hoc mains and service replacement programs, the introduction of a medium pressure block rollout mains replacement program, and three minor specific replacement projects.

SP AusNet stated that its mains replacement capital expenditure is consistent with r. 79(1)(a) and r. 79(2)(c)(i)-(ii) of the NGR.⁸⁹ The programs aims are to reduce the risk to people and property due to mains leaks and blockages, lower maintenance costs, improve reliability of supply and supply capacity.⁹⁰

The AER's assessment of capex for each of SP AusNet's mains replacement programs is set out below.

Low pressure mains replacement

To mitigate the risk of mains failure and address supply reliability issues the distribution businesses are proactively replacing low pressure distribution mains (and some medium pressure as required) with high pressure polyethylene (PE) mains. Block replacement of LP mains is undertaken by working geographically inwards from HP mains areas, which are typically located in outer suburban areas.

SP AusNet proposed capital expenditure of \$95.1 million (\$2012, escalated direct costs, excluding overheads) for its LP mains replacement program for the 2013–17 access arrangement period. It has proposed increasing the volume of LP to HP mains replacement from an annual average of 76.4 km⁹¹ in the 2008–12 access arrangement period to an annual average of 90 km in the 2013–17 access arrangement period⁹².

In its submission, the Energy Users Coalition of Victoria (EUCV) noted that SP AusNet is proposing an increase in the amount of mains replaced from 76.4km per year in the 2008–12 access arrangement period to 90 km per year in the 2013–17 access arrangement period. The EUCV noted that this increase in volume, which is increasing by under a quarter, is almost doubling the mains replacement capital expenditure forecast by SP AusNet.⁹³

In assessing capex for the low pressure mains replacement program, the AER has analysed both the proposed unit rates and volumes underlying SP AusNet's proposal.

Unit costs

SP AusNet's forecast average unit cost for LP mains replacement in the 2013–17 access arrangement period is 53 per cent higher in real terms than the average unit cost for the 2008–12 access arrangement period.

SP AusNet used two methods for calculating unit rates:

Areas where work has not previously been undertaken

For postcodes where work had not been previously undertaken, internal estimates were the basis for SP AusNet's projected expenditure. In order to assess the efficiency of these unit rates, the AER compared the cost build up against available industry data. The AER also

⁸⁹ SP AusNet, *Access Arrangement Information*, March 2012, p. 103.

⁹⁰ SP AusNet, *Access Arrangement Information*, March 2012, p. 103.

⁹¹ This consists of actual volumes for 2008-11 plus an estimate for 2012.

⁹² SP AusNet, *Access Arrangement Information*, March 2012, pp.102–103.

⁹³ EUCV, *Victorian Gas Distribution Revenue Reset, applications from Envestra, Multinet and SP AusNet, A response by Energy Users Coalition of Victoria, Response to SP AusNet's access arrangement proposal*, June 2012, p. 22. (EUCV, *Response to SP AusNet's Access Arrangement Proposal*, June 2012).

benchmarked the unit rates in these postcodes against actual cost data from bordering postcodes where work had already been undertaken. Where a material variance was identified that could not be explained by suburb factors (including rockiness, traffic management requirements, number of services to be replaced, pavement and road reinstatement costs) further information was sought from SP AusNet. This information was taken into account when assessing SP AusNet's proposal.

In relation to these postcodes the AER considers that SP AusNet's approach based on specific locational factors is a reasonable approach. The AER found that the unit rates were within a reasonable range of the historical weighted average unit rates of neighbouring postcodes or where there was a more material variation from nearby areas that SP AusNet provided explanations in terms of the added difficulty factors and a breakdown of costs for components such as mains laying, insertion, services and reinstatement.⁹⁴

Areas where work has been undertaken in the 2008–12 access arrangement period

For the remaining postcodes where work had already been undertaken in the current period, SP AusNet used a weighted average of the actual unit costs incurred and projected that unit rate forward. The AER compared each of these unit rates with the unit rates of neighbouring postcodes. Where a material variance was identified that could not be explained by suburb factors, further information was sought from SP AusNet. SP AusNet made revisions in response to these information requests. The AER was satisfied with the reasons for the variations.

To further test the efficiency of these unit costs, the AER also undertook cross-distribution business benchmarking of similar postcodes/suburbs.

Overall, the AER considers that SP AusNet's methodology is reasonable basis for estimating the efficient cost of future works, consistent with r. 74(2) of the NGR. The AER is satisfied with the explanations provided for variations between suburbs and considers that the unit rates are prudent and efficient consistent with the requirements of r. 79(1)(a) of the NGR.

The average unit rate for the proposed work program over the 2013–17 access arrangement period is \$214/metre (\$2012, unescalated direct costs, excluding overheads).

Volumes

In assessing SP AusNet's proposed volumes the AER has taken into account whether the volume of mains replacement is necessary to maintain network safety and integrity, as required by r.79(2)(c), and prudent and efficient, under r.79(1)(a).

The AER does not consider that the volumes proposed by SP AusNet in excess of the annual average historical volumes are necessary or prudent and efficient. The historical volumes have been sufficient to meet SP AusNet's chosen level of risk in the current period. Without evidence to the contrary, the AER considers that SP AusNet is able to address any change in risk through the alternative programs available while still undertaking the rate of mains replacement which it undertook in 2008-11.

⁹⁴ SP AusNet, *Response to information request 4 of 1 June 2012*, received 4 June 2012, pp. 28–31.

The AER's assessment of what is necessary and prudent and efficient, takes into account:

- the nature of the mains replacement program generally,
- evidence presented by SP AusNet regarding its proposed mains replacement program for 2013-17 and completion of its mains replacement program to date, and
- the applicable legislative and regulatory requirements or obligations.

SP AusNet proposed undertaking 444 km of low pressure (LP) to high pressure (HP) mains replacement in the 2013-17 access arrangement period.

The low pressure to high pressure mains replacement program was initiated during the 2003-2007 access arrangement review. The ESC stated that the consensus between the Office for Gas Safety (succeeded by the ESV), the ESC and the distribution businesses was that there was a need to "develop and implement a long-term program to progressively replace the cast iron part of the network"⁹⁵. In setting the period over which the low pressure mains should be replaced the ESC considered whether the proposed replacements were necessary to maintain the safety and reliability of each distributor's system⁹⁶.

The period for replacement is not fixed or determined under legislation or a regulatory instrument. It is a period proposed by the ESC following consultation with the Office for Gas Safety and the distribution businesses based on factors known or assumed at that time, in early 2003. That proposed period for completion of mains replacement originally varied from 22, to 30, to 40 years depending on the particular distributor. All of the distribution businesses have varied their delivery compared with their original schedule for the 2003-2007 and 2008-2012 access arrangement periods. The ESV is currently reviewing the distribution businesses prioritisation and approach to mains replacement.

In the 2008-12 access arrangement period SP AusNet proposed an annual volume of 90 km (a total volume of 450 km) of low pressure mains replacement but actually delivered an annual average of 73km of low pressure mains replacement between 2008-11. For the 2008-11 period, SP AusNet was funded \$57.1 million (\$2012, direct escalated costs, excluding overheads) for the proposed 360 km but it only expended \$42.6 million (\$2012, direct escalated costs, excluding overheads).

In the 2003-07 access arrangement period SP AusNet proposed an annual volume of 75 km (a total volume of 375 km) of low pressure mains replacement but actually delivered an annual average of 63 km (a total volume of 315 km). For the 2003-07 period, SP AusNet was funded \$44.4 million (\$2012, direct escalated costs, excluding overheads) for the proposed 375 km but it only expended \$40.9 million (\$2012, direct escalated costs, excluding overheads).

ESV is currently reviewing the distribution businesses prioritisation and approach to mains replacement. However, because of how the regulatory framework operates, consumers have

⁹⁵ ESC 2003-2007 Final Decision, p.117

⁹⁶ ESC 2003-2007 Final Decision, p.117

paid gas prices reflective of the higher volumes approved in the previous regulatory period, not the actual volumes completed.

SP AusNet justified its proposed low pressure to high pressure mains replacement capex on the basis of maintaining safety, reliability, the need to meet regulatory obligations and to maintain capacity to meet levels of demand for services (r.79(2)(c)(i)-(ii))⁹⁷. Specifically, SP AusNet stated that the aims of the main replacement program are to:

- “Lower the risk to personnel public and property due to mains leaks and mains blockages;
- Limit maintenance costs;
- Enhance customer service in areas of the network serviced by defective pipes;
- Improve reliability of supply;
- Improve system supply capacity;
- Decommission 'old' type low pressure District Regulating stations; and
- Move towards a uniform high pressure gas network”⁹⁸.

SP AusNet stated that the mains replacement program is to address SP AusNet’s Gas Safety Case obligations⁹⁹ to mitigate the existing risk to the public and employees, and to also ensure that SP AusNet’s assets comply with the safety aspects of the NGO¹⁰⁰.

All distribution businesses have a statutory general obligation under s. 32 of the Gas Safety Act to "manage and operate each of its facilities to minimise as far as practicable" the hazards and risks to the safety of the public and customers arising from gas, interruptions to the conveyance or supply of gas and the reinstatement of an interrupted gas supply¹⁰¹. The obligation also includes minimising hazards and risks of damage to public property and the property of customers arising from gas.

Distributors also have obligations under the Gas Distribution System Code (Version 9, Schedule 1, Part A) including to ensure continuity of supply by maintaining gas pressure above the minimum levels specified in the Code.

The AER notes that there are no specific legislative safety or reliability requirements which mandate a certain volume of mains replacement to be undertaken within a specified timeframe. Rather, the Gas Safety Act requires a distributor in deciding what is “practicable” to have regard to a number of factors: the severity of the hazard or risk in question; the state of knowledge about the hazard or risk and any ways of removing or mitigating the hazard or risk; the availability and suitability of ways to remove or mitigate the hazard or risk; and the cost of removing or mitigating the hazard or risk¹⁰².

⁹⁷ SP AusNet, *Access Arrangement Information*, March 2012, p.103.

⁹⁸ SP AusNet, *Access Arrangement Information*, March 2012, p.103.

⁹⁹ Imposed under s.37 and s.44 of the Gas Safety Act 1997 (Vic).

¹⁰⁰ SP AusNet, *Access Arrangement Information*, March 2012, p.102.

¹⁰¹ "Facility" means, amongst other things, a pipeline: s 3(1) of the Gas Safety Act 1997 (Vic).

¹⁰² Gas Safety Act 1997 (Vic), s.3

Distribution businesses meet their safety obligations, not just through the LP to HP mains replacement program, but through a mix of proactive and reactive programs. SP AusNet stated that it meets its safety obligations in relation to distribution mains through a mixture of the proactive mains replacement program, reactive mains replacement programs and proactive and reactive maintenance programs.¹⁰³ The two reactive mains replacement programs involve the miscellaneous replacement program within the LP mains replacement program and the reactive mains services replacement program.¹⁰⁴ The proactive maintenance program involves:

- mains and service renewals
- leakage survey and resulting leak repairs
- cathodic protection of steel mains
- valve maintenance
- marker post installation/maintenance
- exposed pipe maintenance
- syphon maintenance
- internal service maintenance.

Cathodic protection, valve, syphon and internal service maintenance reduce the degradation of the mains, enabling their asset life to be prolonged.

The reactive maintenance program involves:

- leak repairs (identified through public reports) on mains, meters and services
- syphon pumping (from water ingress on the low pressure network).

SP AusNet has revealed that it is able to meet its safety and reliability obligations through a mixture of mains replacement and maintenance programs. The revealed mix has involved less kilometres of low pressure to high pressure mains replacement than the amount proposed by SP AusNet and approved by the ESC over the 2003–07 and 2008–12 access arrangement periods.¹⁰⁵

The optimal mix of programs depends on the relative costs and effectiveness in achieving the distribution business' chosen level of risk.

The risk level the distribution businesses are exposed to and are prepared to adopt appears to vary between businesses and change over time:

¹⁰³ SP AusNet, *Response to information request 8 of 8 June 2012*, received 18 June 2012, p. 4.

¹⁰⁴ This captures the cost of urgent mains repairs, which are generally under 20 metres – see. SP AusNet, *Response to information request 8 of 8 June 2012*, received 18 June 2012, p. 5.

¹⁰⁵ Over the 2003–07 access arrangement period SP AusNet under delivered by 16 per cent against the approved volumes—see ESC, *Review of gas access arrangements, Final decision*, October 2002, p. 120; SP AusNet, *Regulatory Information Notice*, March 2012, Template 2(a)-Non-demand capex incl. RPM

- There are different safety risks associated with the different networks. For example there are different quantities of cast iron and unprotected steel across the distribution networks, which creates different risk profiles across the businesses.
- Different distribution businesses have shown that they have different risk tolerances. For example, networks which have less cast iron and unprotected steel are choosing to replace these mains at a faster rate than other networks which have more.
- Distribution businesses also make trade-offs between where they allocate their total capex allowance. For example, SP AusNet cites that it diverted capex from the mains replacement program towards connections investment¹⁰⁶. This may lead to distribution businesses varying the safety risk they are willing to bear over time in relation to low pressure mains.

In considering what volume of mains replacement is necessary and efficient and prudent, the AER has taken into account these above variables which are informed by the applicable safety requirements. In particular, there is no specific volume of mains replacement to meet the adopted safety level, as safety may be addressed through a mixture of programs. Hence, the AER considers that the volume and timing of the mains replacement program is somewhat at the discretion of the gas business and potentially subject to the changing risk profile of the networks and resource availability.

SP AusNet stated that it has under delivered due to credit constraints associated with the GFC and to the need to divert funds towards connections, which were greater in number than forecast.¹⁰⁷ SP AusNet reports that it "has remained compliant with its legal and regulatory safety obligations throughout the 2008–12 access arrangement period".¹⁰⁸

The AER accepts that SP AusNet is currently meeting its safety and reliability obligations while delivering a lower volume of mains replacement than approved by the ESC. The AER has no evidence to indicate otherwise. The credit constraints associated with the GFC and the need to divert capital towards other programs has revealed that the least cost mix of work required to meet SP AusNet's safety and reliability obligations involves lower volumes of mains replacement than was proposed by SP AusNet for the current access arrangement period.

The AER considers that the annual average volume of mains undertaken between 2008 and 2011 reveals the volume of mains replacement, which in concert with the other proactive and reactive mains programs, has enabled the distribution businesses to meet their safety obligations.

The AER does not consider that the volumes proposed by SP AusNet in excess of the annual average historical volumes are necessary or prudent and efficient. The historical volumes have been sufficient to meet SP AusNet's chosen level of risk in the current period. The AER considers that, as it has done in the past, SP AusNet will be able to address any change in risk through the alternative programs available while still undertaking the rate of mains replacement which it has undertaken in 2008-11. In arriving at this decision, the AER has taken into account the distributor's safety obligations and the means available to it to comply

¹⁰⁶ SP AusNet, *Access Arrangement Information*, March 2012, p.49

¹⁰⁷ SP AusNet, *Access Arrangement Information*, March 2012, p. 49.

¹⁰⁸ SP AusNet, *Response to information request 8 of 8 June 2012*, received 18 June 2012, p. 4.

with these obligations. In particular, there is no fixed period for completion of the mains replacement program, a program which is currently under review by the ESV. In addition, there are no mandatory volume requirements under the Gas Safety Act. Instead, there are a variety of options available to distributors to address the existing safety obligations and a range of considerations under the Gas Safety Act which allow distributors to balance risk and cost. Therefore, on the evidence before it, the AER does not consider that a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, would undertake mains replacement at the volumes SP AusNet has proposed.

The AER is mindful that proactive replacement of mains involves a longer-term objective of eventually replacing all low pressure mains for safety and reliability reasons. Distribution businesses may alter the timing in response to changing risk and capital availability. The AER also notes that the program is currently being reviewed by the ESV.

The AER does not want to limit the scope for businesses to legitimately respond to changed market conditions through altering the mix of risk management programs. This may require the ability to alter the volume of mains replacement delivered. Consistent with the Gas Safety Act¹⁰⁹, this may be driven by factors such as new information on safety risks and changes in the relative costs of different methods for mitigating or removing safety risks.

For this reason, the AER considers that a pass through event should apply, where the trigger event is the completion of approved volumes (the annual average of the historical volumes achieved for the 2008-11 period applied to the 2013-17 access arrangement period).

On completion of historical volumes, the distribution business will be able to submit a cost pass through application seeking to adjust the volume of mains replacement for the remainder of the access arrangement period. In responding to this application the AER will consider:

- the volumes of mains replacement proposed (above approved historical volumes) for the remainder of the access arrangement period
- the efficient unit cost associated with the proposed program of works at a suburb level (as is currently submitted)
- the additional return on capital accruing to the distribution business because the mains replacement program has been completed in a shorter time frame than was initially approved

If approved, as part of the annual tariff variation process, the distribution business will receive the revenue associated with the approved volumes and unit rates. Distribution businesses will receive the same return on and return of capital expenditure as they would have if the volume undertaken had been approved at the commencement of the access arrangement.

The provision of a pass through provides distribution businesses with the ability to apply for approval of additional volumes of mains replacement should it become apparent that changing circumstances warrant an alteration of their replacement programs. This provides the businesses with an incentive to deliver those volumes at an efficient cost.

¹⁰⁹ Gas Safety Act 1997 (Vic), s.45

The AER notes that the mains replacement work is outsourced by SP AusNet. On the basis of confidential information provided to the AER, the AER considers the pass through provision will not materially change the existing level of certainty and control that SP AusNet currently has over future works.

Adjusted unit rates

SP AusNet and other distribution businesses have indicated that when undertaking a reduced volume of mains replacement, the works prioritised tend to be in the outer parts of the network where the work is less costly¹¹⁰. Given the reduction in approved volumes, the AER has prioritised the proposed works in order of unit cost. This results in an average unit rate of \$184/metre (\$2012, escalated direct costs, excluding overheads) and a total expenditure of \$67.0 million (\$2012, escalated direct costs, excluding overheads).

Miscellaneous replacement of mains

SP AusNet proposed a provision for miscellaneous mains replacement under its low pressure to high pressure mains replacement program of \$0.79 million per year (\$2012, escalated direct costs, excluding overheads) over the 2013–17 access arrangement period. SP AusNet used the 2007–08 to 2011–12 historical average of volumes to determine the average annual volume to be projected over the 2013–17 access arrangement period. To calculate the average unit rate SP AusNet excluded the unit rates for two projects which were significantly lower than the unit rates associated with the other work undertaken. It then took a weighted average to derive a forecast unit rate.

The AER considers that the miscellaneous replacement of mains is necessary under r. 79(2)(c)(i)-(ii) of the NGR.

AER considers that an historical average is appropriate as a basis for forecasting future expenditure for this category. However, it is inconsistent to include the volumes which were undertaken at a low unit rate for the purposes of deriving an average annual volume but to exclude the low unit rate from the calculation to derive an average annual unit rate. The AER has excluded both the volume and the unit rate for the two projects which have large volumes and low unit rates from the average volume and unit rate calculations on the basis that this provides a reasonable basis for forecasting expenditure as required under NGR r. 74(2)(a). The AER calculates the revised annual allocation for the miscellaneous program of \$0.4 million (\$2012, unescalated direct cost, excluding overheads) which the AER considers is the best estimate possible in the circumstances, consistent with r. 74(2)(b) of the NGR.

Medium pressure pipe replacement

SP AusNet proposed to introduce a new program of medium (MP) mains replacement. Under this program, all cast iron, high risk PE CL250 and unprotected steel is to be replaced by 2017¹¹¹. The reasons given for undertaking this program are that:

- there has been an increase in the maintenance required for these mains

¹¹⁰ SP AusNet, *Access Arrangement Information*, March 2012, p. 50.

¹¹¹ SP AusNet, *Access Arrangement Information*, March 2012, p. 107.

- failure modelling has indicated that replacement of some medium pressure assets will improve safety and reliability by reducing the incidence of leaks and subsequent outages, and
- replacement will deliver significant safety improvements for the public and employees working on the distribution network¹¹².

SP AusNet proposed a total expenditure of \$36.9 million (\$2012, escalated direct cost, excluding overheads) for the 2013–17 access arrangement period, at an average unit rate of \$237 per metre (\$2012, escalated direct cost, excluding overheads). The packages were chosen to prioritise the removal of cast iron pipe material, high leakage areas and PE Class 250 pipe material¹¹³.

Drawing on the advice of its engineering consultant, Zincara¹¹⁴, the AER has considered a number of factors in determining whether the medium pressure pipe replacement is prudent and efficient and justifiable, including that:

- The program will result in some like for like replacements. SP AusNet stated that there is an increased need for like for like replacement due to fewer opportunities for using the insertion method and that in some instances, due to the distance from high pressure mains, like for like replacement is the only option available¹¹⁵. Any like for like replacements will have to be upgraded to HP in the future.
- The fracture rate indicates the priority of the particular mains, however, it does not necessarily justify the replacement program
- The historical number of mains leaks and the leakage incidence rate results for 2009 and 2010 for the medium pressure network are within the cyclical historical range of the 2002–10 period presented.¹¹⁶ Confidential information provided by SP AusNet shows that the main contributor to the upward trend in the number of leaks in 2009 and 2010 is unprotected steel, which only accounts for 35 per cent of the medium pressure network.¹¹⁷ It also showed that the number of leaks for the other two thirds of the medium pressure network are stable. The solution of replacing the entire MP mains network in order to address the small proportion of the mains creating the risk, especially when like for like replacement is planned, is not considered prudent and efficient by the AER.
- The leakage incidence rate for the cast iron component of the medium pressure network needs to be interpreted with care. As cast iron only constitutes 3 per cent of the network any incident of a leak will have a significant impact on the leakage incidence rate.
- Confidential information provided by SP AusNet shows that the leakage incidence rate for cast iron in the medium pressure network is relatively stable.¹¹⁸ A continuing increase in the rate would be expected in order to justify undertaking the replacement program on a

¹¹² SP AusNet, *Access Arrangement Information*, March 2012, pp. 104–5.

¹¹³ SP AusNet, *Access Arrangement Information*, March 2012, p. 106.

¹¹⁴ Zincara, *Review of SP AusNet's Capital Expenditure*, September 2012, pp.9-12.

¹¹⁵ SP AusNet, *Response to information request 15 of 26 June 2012*, received 4 July 2012, p. 14.

¹¹⁶ SP AusNet, *Access Arrangement Information: Appendix 5A Asset Management Strategy, Figure 39*, March 2012, p. 68.

¹¹⁷ SP AusNet, *Access Arrangement Information: Appendix 5J.3 Mains and services strategy*, March 2012, p. 49.

¹¹⁸ SP AusNet, *Access Arrangement Information: Appendix 5J.3 Mains and Services Strategy*, March 2012, p. 77.

proactive basis. Cast iron mains only make up 3 per cent of the medium pressure network.¹¹⁹

The AER considers that the medium pressure mains replacement program can maintain and improve the safety and integrity of services. However, the AER does not consider that the program expenditure is necessary, as required by r. 79(2)(c)(i)-(ii) of the NGR as there is insufficient justification for it.

The AER considers that a proactive replacement program is not prudent and efficient under r. 79(1)(a) of the NGR given that two thirds of the medium pressure network is stable and that some of the replacement will be like for like replacement rather than an upgrade to HP.

Based on this assessment the AER does not approve the expenditure as conforming capex under r. 79(1) of the NGR. The AER revises this expenditure from \$36.9 million (\$2012, escalated direct cost, excluding overheads) to zero.

Minor specific mains replacement projects

SP AusNet proposed \$ 1.4 million (\$2012, escalated direct cost, excluding overheads) for three minor specific mains replacement projects.

SP AusNet stated that the mains replacement should be undertaken to reduce the safety risks associated with these projects.

For two of these projects the AER considered confidential information provided by SP AusNet. SP AusNet stated that there is no change in the risk associated with the mains in question.¹²⁰

Drawing on the advice of its engineering consultant, Zincara¹²¹, the AER considers that a reactive program is adequate to deal with the risks associated with these mains over the 2013–17 access arrangement period. The AER therefore considers that this program is not justifiable under r. 79(2)(c)(i) of the NGR given that there has been no change in the risk associated with these mains. The AER therefore does not approve the proposed capex for two of the minor specific mains replacement projects worth \$1.2 million (\$2012, escalated direct costs, excluding overheads).

For the third minor specific mains replacement project, the AER considered the confidential information provided by SP AusNet. The AER considers that the works are necessary for maintaining safety the timing for the proposed works is prudent. The AER therefore considers that the proposed capex of \$0.2 million (\$2012, escalated direct cost, excluding overheads) is prudent and efficient under NGR r. 79(1)(a), justified under r. 79(2)(c)(i) of the NGR and the estimate is consistent with r. 74(2) of the NGR.

Reactive mains and services replacement

The reactive mains and services replacement program consists of two elements:

¹¹⁹ SP AusNet, *Access Arrangement Information: Appendix 5J.3 Mains and Services Strategy*, March 2012, p. 49.

¹²⁰ SP AusNet, *Response to information request 17 of 3 July 2012*, received 10 July 2012, p. 4.

¹²¹ Zincara, *Review of SP AusNet's Capital Expenditure*, September 2012, pp.12-13.

- Renewal of mains and services, where mains and services have failed and require urgent replacement (rather than repair). The mains replacement length is generally less than 20 metres
- Altering or lowering mains and services, where mains or services are impacting on other utilities or the depth of cover is reduced.

SP AusNet proposed an average annual allowance of \$1.5 million per year (\$2012, escalated direct cost, excluding overheads) for reactive mains and service replacements. This allowance is based on historical volume and unit cost trends. SP AusNet stated that it found no evidence of a significant volume trend for mains replacement and altering/lowering mains and services but stated that there was a significant upward trend for the volume of services replacement. SP AusNet used the actual average of 2007–10 for all unit rates.

The AER considers that it is justifiable to have an expenditure allowance for reactive mains and services replacement, as it is necessary for maintaining the safety and integrity of services, under r. 79(2)(c)(i)-(ii) of the NGR.

The AER agrees that it is appropriate to take an historical average given the unpredictability of the work. However the AER disagrees with imposing a long run trend to forecast the volume of services replacement unless it is supported by evidence. The AER asked SP AusNet for an explanation of why service renewals may be increasing but received no evidence from SP AusNet to substantiate its approach.¹²²

The AER considers that the number of services renewed should be based on the earlier access arrangement period as connections growth slows and the mains replacement program, which involves replacement of services at the same time, advances. The AER therefore considers that a more reasonable basis for the forecast of the number of services over the access arrangement period is the average of the annual number of services over 2008–11. This is consistent with the approach applied to the three other components of mains and services replacement. This reduces the forecast total number of services renewed over the access arrangement period. This results in a reduction in program expenditure from \$7.7 million (\$2012, escalated direct costs, excluding overheads) to \$6.2 million (\$2012, escalated direct cost, excluding overheads). The AER considers such expenditure would be prudent and efficient in accordance with r. 79(1)(a) of the NGR.

Customer connections

Distribution businesses have a regulatory obligation to connect residential and commercial/industrial customers to the distribution network upon request. The capital expenditure associated with connecting customers to the distribution network generally includes the cost of new mains, gas service pipe from the main to the meter, and the meter.

The AER considers that connections expenditure is justified under r. 79(2)(c)(iii) of the NGR as it is a regulatory obligation to connect customers to the network.

SP AusNet proposed capex of \$202.4 million (\$2012, escalated direct cost, excluding overheads) for customer connections capex over the 2013–17 access arrangement period.

¹²² SP AusNet, *Response to information request 17 of 3 July 2012*, received 10 July 2012, pp. 5–6.

The proposed amount is a 2.6 per cent increase over the actual expenditure of \$197.2 million (\$2012, escalated direct cost, excluding overheads) in the 2008–12 access arrangement period. SP AusNet attributed this increase to increased housing density and so more labour per connection, increased volume of infill connections or redevelopment and increased incidence of rocky areas in growth areas (of Melton and Hume)¹²³.

SP AusNet justified the capital expenditure under r. 79(1)(b), r. 79(2)(c)(iii) and r. 79(2)(c)(iv) of the NGR.¹²⁴

In its submission, the EUCV stated that SP AusNet has forecast a similar rate of new connections to that over the current access arrangement period. However, costs for connections have risen by 12 per cent in real terms.¹²⁵

The AER has assessed total capex for Tariff V connections by determining the unit costs for the mains, services and meters components and the forecast number of new connections for Tariff V class customers.

In the case of Tariff D customers, the size of customers and number of connections results in capex that tends to be lumpier compared to Tariff V. Given this, the AER's approach is to assess Tariff D capex at the total expenditure level rather than the unit rate level.

The expenditure assessed in this section excludes that associated with new area connections.

Tariff V class customer connections

Tariff V class customer connections are residential and commercial/industrial customers who consume less than 10 TJ/year. Residential and commercial/industrial customers are considered separately because there are different input requirements, especially in relation to services and meters.

Volumes

Based on CIE modelling, SP AusNet projected a slowing of residential customer and commercial customer growth over the 2013–17 access arrangement period compared with growth in the 2008–12 access arrangement period¹²⁶ (see attachment 9 for the AER's analysis of the net customer forecasts).

Customer connections are based on gross connections, which for capex purposes is equal to net connections (customers at 31 December less customers at 1 January) plus gross customer disconnections (abolishments plus disconnections) less customer reconnections (which are connections which don't require capital works).

SP AusNet built up its forecast of gross connections numbers by taking the 2011 closing balance of customers, adding the CIE net customer projection for 2012 and adding the SP AusNet forecast of abolishments. The SP AusNet forecast of abolishments is based on

¹²³ SP AusNet, *Access Arrangement Information: Appendix 5C Customer Capital Paper*, March 2012, p. 10.

¹²⁴ SP AusNet, *Access Arrangement Information: Appendix 5C Customer Capital Paper*, March 2012, p. 6.

¹²⁵ EUCV, *Response to SP AusNet's Access Arrangement Proposal*, June 2012, p. 23.

¹²⁶ *Access Arrangement Information: Appendix 5C Customer Capital Paper*, March 2012, p.9.

the trend in the ratio of abolishments to the opening customer numbers over 2006–11. This becomes the closing balance for 2013 and the process is repeated for the following years out to 2017.

As the trend in abolishments is forecast solely on historical data from 2006–11, it is forecast to continue on an unconstrained upwards trajectory.

In response to the AER's request for an explanation of why a continuous upward trend is reasonable, SP AusNet stated that:

"one driver of abolishments is the increase in infill development that is occurring in SP AusNet's network, whereby subdivision and higher density developments are taking [the] place of existing lower density connections."¹²⁷

SP AusNet advised that it does not record whether a customer connection is an infill or new estate connection.¹²⁸ Therefore the AER is unable to verify the claim that the growth in abolishments is attributable to increasing infill development. However, SP AusNet provided estimates of the amount of infill versus new estates over the 2003–2011 period. These showed that the volume of infill connections was relatively flat.

Abolishments are usually the result of an existing dwelling being demolished and multiple dwellings being constructed in its place. Abolishments are therefore a function of economic activity and population growth. The AER considers that, as per the CIE forecast of net connections, it is reasonable to expect some softening of the growth in abolishments over the 2013–17 access arrangement period. SP AusNet's analysis shows that the absolute numbers of infill new customer connections has been relatively flat. On the basis of these two points, the AER consider the SP AusNet method of forecasting abolishments is not a reasonable forecast method as required by r. 74(2)(a) of the NGR and would not result in the best estimate possible in the circumstances as required by r. 74(2)(b) of the NGR. The AER's alternative forecasting method is to take an annual average of the number of abolishments over the 2007–11 period and project this forward. This is consistent with SP AusNet's approach to estimating unit rates.

This results in a reduction of 2,606 residential customer numbers and 255 commercial/industrial customers over the 2013–17 access arrangement period.

Unit costs

For Tariff V, SP AusNet proposed a weighted average residential connection rate of \$2,761¹²⁹ and a weighted average commercial/industrial connection rate of \$18,912 (note: this unit rate includes Tariff D).¹³⁰

SP AusNet's unit rate estimates for the access arrangement period are based on historical unit rates which have been derived using the following methodology:

¹²⁷ SP AusNet, *Response to information request 17 of 3 July 2012*, received 10 July 2012, p. 10.

¹²⁸ SP AusNet, *Response to information request 8 of 8 June 2012*, received 22 June 2012, p. 17.

¹²⁹ SP AusNet, *Access Arrangement Information*, March 2012, p. 100.

¹³⁰ SP AusNet, *Access Arrangement Information*, March 2012, p. 101.

- The annual total capital expenditure on mains, services and meters over 2007–11 was divided between residential and commercial/industrial customers.
- For the mains, services and meters categories the unit costs for each year was calculated by dividing the total expenditure by the volume of residential or commercial/industrial connections
- The weighted average unit cost for 2007–11 was calculated for the mains, services and meters categories
- A contingency allowance of 10 per cent was added to the residential unit rates and of 5 per cent for the commercial/industrial unit costs. SP AusNet proposed a contingency as the unit rates in the 2008–12 access arrangement were higher than the ESC benchmark.¹³¹ SP AusNet calculated the contingency on the basis of the difference between the benchmark and actual unit rates during the 2008–12 access arrangement period.
- SP AusNet provided separate total costs for standard and non-standard Tariff V residential connections but was unable to provide separate volume data for unit rate analysis. The AER has therefore grouped standard and non-standard connections together for the purposes of assessing the Tariff V residential unit cost.

The AER assessed the trend of the annual historical unit rates to ensure that the use of 2007–11 data was appropriate. The unit rates are variable over the period, with generally no clear trend, hence the AER agrees with SP AusNet's approach of using a weighted average across 2007–11 to arrive at a base unit rate.

The AER does not approve SP AusNet's proposed application of a 10 per cent contingency on residential unit rates and 5 per cent on commercial and industrial unit costs. SP AusNet has not provided information which demonstrates that the contingency is based on a calculation of the cost of expected changes in housing density, rocky ground or infill. The calculation of the contingency is based on the cost overspend in the current period. SP AusNet has not connected the overspend in the 2008–12 access arrangement period to undertaking connections with greater housing density, rocky ground or infill than was already accounted for in the benchmark unit rate. Further, SP AusNet has not provided evidence for why the same over spend rate is applicable to the 2013–17 access arrangement period.

Due to the inclusion of the contingency, which the AER considers is not arrived at on a reasonable basis as required by r. 74(2)(a) of the NGR, the AER does not approve the unit rates proposed by SP AusNet. Such rates would not represent the best estimate possible in the circumstances.

The AER approves an average Tariff V residential connection unit rate of \$2,392 (\$2012, escalated direct costs, excluding overheads) and an average Tariff V commercial/industrial connection unit rate of \$12,010 (\$2012, escalated direct costs, excluding overheads) for the 2013–17 access arrangement period.

The AER considers that the capital expenditure is justifiable as it is necessary to comply with a regulatory obligation, consistent with r. 79(2)(c)(iii) of the NGR.

¹³¹ SP AusNet, *Access Arrangement Information*, March 2012, p. 110; SP AusNet, *Access Arrangement Information: Appendix 5C Customer Capital Paper*, March 2012, p. 18.

Taking into account the reduction in volumes and the contingency on unit rates, the AER approves a total expenditure over the 2013-17 access arrangement period of \$176.4 million (\$2012, escalated direct costs, excluding overheads) for residential connections and \$11.3 million (\$2012, escalated direct costs, excluding overheads) for commercial and industrial connections. This is \$6.3 million (\$2012, escalated direct costs, excluding overheads) and \$3.1 million (\$2012, escalated direct costs, excluding overheads) lower than SP AusNet's proposed capex for residential and commercial/industrial connections, respectively. The AER considers that these capex amounts are consistent with r. 79(1)(a) of the NGR.

Tariff D

Tariff D customers are typically larger industrial customers, consuming greater than 10 TJ/year. Connecting these customers to a gas network involves capital expenditure on laying new mains, installing a service pipe/inlet from the main to the meter, meter installation and reinforcement of network assets based on customer load requirements.

SP AusNet based its forecast costs over the access arrangement period on the average total cost of Tariff D connections over 2007 to 2011. The AER considers that this forecasting approach is consistent with r. 74(2) of the NGR given the variation in the cost and frequency of the connections. The AER approves SP AusNet's proposed expenditure of \$5.2 million (\$2012, escalated direct costs, excluding overheads) for 2013–17 on the basis that connecting Tariff D customers is a regulatory obligation and the costs are efficient as revealed by the historical expenditure undertaken. The AER considers that the proposed capex is consistent with r. 79(1)(a) and r. 79(2)(c)(iii) of the NGR.

Meter replacements

Meter replacement is an ongoing activity which is necessary to ensure that gas meters in the field are replaced when they fail to accurately read data. The Gas Distribution Code requires that meters read customers' gas usage accurately within an acceptable error tolerance range. Gas meters are continually sampled and tested for accuracy, and based on sample test results, the wider meter population (meter family) is allocated a life and a forecast replacement date. Sample testing is conducted in accordance with the in-service compliance standard.¹³²

SP AusNet's meter replacement program relates to both residential and industrial and commercial meters and comprises the following sub-components:

- In-service compliance testing program—Outcomes of compliance testing leads to a field life extension (5, 3, or 1 year) or the meter family being removed from the field.
- Time expired meter replacement program—Meters at the end of their in-service compliance periods (i.e. useful life) are removed from the field and replaced with new or refurbished assets of similar capacity.
- Meter Faults—SP AusNet reactively replaces meters that fail in operation.

¹³² Services Australia/Services New Zealand, *Gas meters—In service compliance testing AS/NZS 4944:2006*, May 2006.

- No-access program—Dedicated program to target and replace meters that remain in the field beyond their in-service compliance periods (inability to access the meters being the primary reason).¹³³

SP AusNet proposed meter replacement capex of \$28.9million (\$2012, escalated direct costs, excluding overheads) for the 2013–17 access arrangement period (see table 3.16.)

Table 3.16 Meter replacement - Summary of SP AusNet's proposed volumes and unit rates^(a)

	2013	2014	2015	2016	2017	Total
Meter replacement volumes	39,016	42,325	37,231	35,919	35,124	189,615
Meter replacement unit cost	146.5	147.8	151.3	156.2	161.9	152.4
Total capex (000's)	5.7	6.3	5.6	5.6	5.7	28.9

Source: SP AusNet.¹³⁴

Notes: (a) This table presents unit rates and volumes that have been aggregated across all elements of SP AusNet's meter replacement program of commercial and residential meters.

The AER considered the basis on which SP AusNet arrived at its forecasts of the replacement volumes and the cost (on a unit rate basis) of removing and replacing the meters. Specifically, the AER considered the:

- Efficiency and prudence of the proposed meter replacement volumes by examining the age of the meters SP AusNet is proposing to remove and ensuring this is in a reasonable age range. The AER has determined this reasonable range having regard to the initial 15 year life of meters and the availability of sampling and maintenance techniques to extend meter life beyond 15 years
- The efficient mix of using refurbished and new meters in meter replacement, and
- The efficiency of proposed unit rates of meters replaced

In its submission, the EUCV raised concerns that, while it sees no step changes in the volume of meter replacements the cost of meter replacement has nearly doubled relative to costs in the current access arrangement period.¹³⁵ The AER notes the EUCV's concerns about the increase in costs. The AER has assessed the efficiency of SP AusNet's proposed unit costs as part of its assessment of meter replacement capex.

The AER approves SP AusNet's proposed meter replacement expenditure of \$28.9m (\$2012, escalated direct costs, excluding overheads). The AER considers that meter replacement capex complies with r. 79(2)(c)(ii) of the NGR as it is required to maintain the integrity of gas services. The AER considers that SP AusNet's capex also complies with r. 79(1)(a) and r. 74(2) of the NGR. The AER considered SP AusNet's forecasts of both volumes and the unit rates for its meter replacement program in assessing the proposed capex. This analysis is detailed below.

¹³³ SP AusNet, *Access Arrangement Information*, March 2012, p. 111.

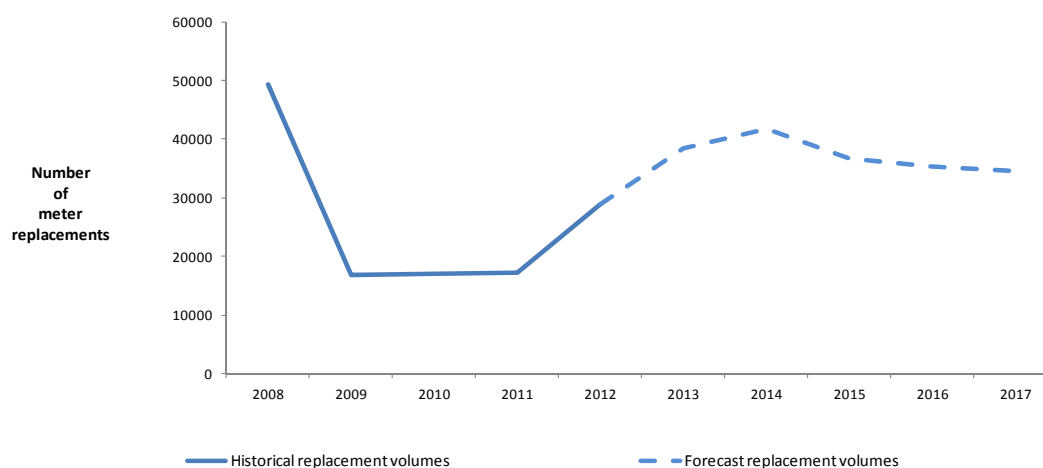
¹³⁴ SP AusNet, *Capital expenditure forecast model*, March 2012, GAAR_CapexForecast_020 worksheet.

¹³⁵ EUCV, *Response to SP AusNet's Access Arrangement Proposal*, June 2012, p. 23.

Domestic meter replacement volumes

Domestic meter replacements comprise the bulk of total meter replacements. SP AusNet proposes to replace 186,692 domestic meters with total capex of 23.7 million (\$2012, direct escalated costs, excluding overheads) over the 2013–17 access arrangement period.

Figure 3.3 SP AusNet forecast and historical domestic meter replacement volumes



Source: SP AusNet.¹³⁶

In Service compliance testing

SP AusNet stated that its testing program complies with the statistical methods outlined in AS/NZS 4944:2006.¹³⁷ This standard outlines two methods of statistical analysis that can be adopted for in-service compliance testing. SP AusNet uses the "Variables" method of sample testing. The "Variables" method requires a smaller sample size than the "Attributes" method. If meters fail the "Variables" method, then SP AusNet removes more meters to complete the testing under the "Attributes" method.

The AER examined SP AusNet's proposed approach and considers that this is a reasonable approach to the statistical sampling. By first performing sampling under the variables method, SP AusNet has reduced the total number of meters that it needs to sample. Therefore, the AER considers the proposed volumes are consistent with r. 74(2) of the NGR and prudent and efficient.

Time expired replacement program

The AER examined the age of meter families when SP AusNet proposes to remove the meters from the field. As demonstrated in figure 3.4, the average age of meters when SP AusNet proposes to remove meters from service ranges from approximately 18 to 26 years. The AER considers this reflects a reasonable average age range for meter

¹³⁶ SP AusNet, *Response to information request 4 of 18 May 2012*, received 1 June 2012, Q. 20 Final - Capital Expenditure.xlsx.

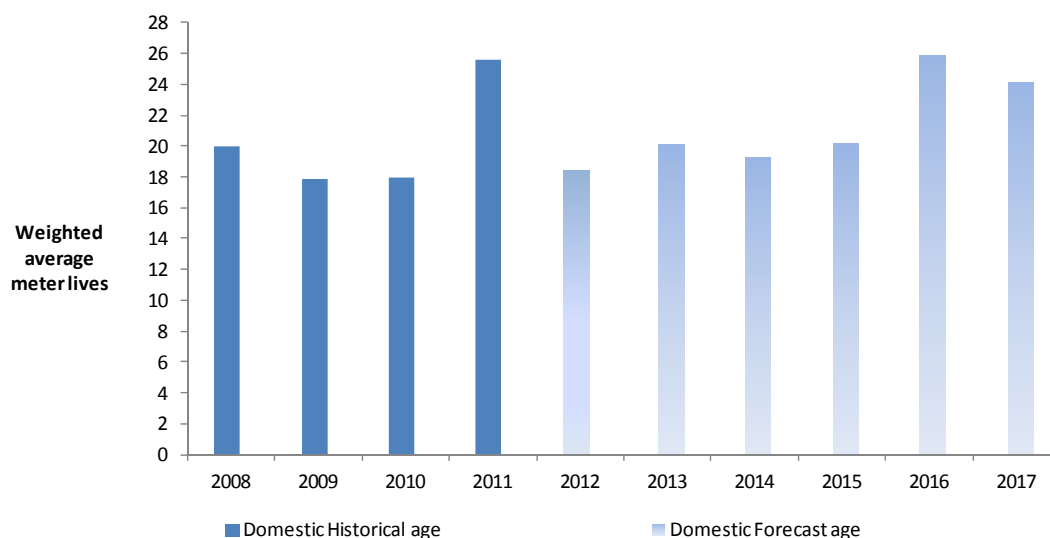
¹³⁷ SP AusNet, *Access Arrangement Information: Appendix 5A Gas Asset Management Strategy*, March 2012, p. 76.

replacement. The AER reached this conclusion taking into account the initial life of 15 years and the possibility of extending meter life beyond 15 years as a result of meter sample tests. This range of meter lives suggests that these works reflect a realistic assumption regarding the outcome of the in-service compliance testing under AS/NZS 4944:2006 and that the works are not overstated or undertaken unnecessarily.

SP AusNet proposed to smooth the profile of replacements. SP AusNet considers large fluctuations result in unfavourable unit rates, due to the need to mobilise and subsequently demobilise resources.¹³⁸ The AER accepts there may be costs involved in mobilising and demobilising a workforce and so considers smoothing is appropriate in some circumstances. In SP AusNet's case, the "early retirement" meters are still removed when the installed lives are at the low end of what the AER considers reasonable. Accordingly the AER accepts that these meters are not being removed from service unreasonably early.

The AER considers the volume of meters to be replaced under this program is consistent with r. 74(2) of the NGR and prudent and efficient.

Figure 3.4 Meter replacement - historical and forecast meter age profile



Source: SP AusNet.¹³⁹

Meter faults program

SP AusNet proposed an allowance for an additional reactive replacement program which targets domestic meter faults. SP AusNet stated that the domestic meter faults generally occur at an average fault rate of 0.3 per cent of the domestic meter population per annum.¹⁴⁰ In response to an AER information request SP AusNet provided additional information

¹³⁸ SP AusNet, *Access Arrangement Information: Appendix 5B Meter Management Plan*, March 2012, p. 10.

¹³⁹ SP AusNet, *Response to information request 4 of 18 May 2012*, received 1 June 2012, Q. 20 Final - Capital Expenditure.xlsx.

¹⁴⁰ SP AusNet, *Access Arrangement Information: Appendix 5B Meter Management Plan*, March 2012p. 18.

regarding its historical domestic meter faults.¹⁴¹ The historical data supported SP AusNet's assumption that the average fault rate is 0.3 per cent of the domestic meter population. Accordingly, the AER considers the volume of meters proposed to be replaced under this program is consistent with r. 74(2) of the NGR and is prudent and efficient.

No access program

SP AusNet proposed an allowance for a "no access" domestic meter replacement program. This relates to meters which remain in the field beyond their in-service compliance period. SP AusNet stated that an inability to access the meter is the primary reason for meters remaining in the field beyond their in-service compliance period.¹⁴² SP AusNet indicated that it has always incurred additional costs in relation to these meters. These costs relate to additional liaison with property owners to gain access to meters and in many cases the work is performed outside normal work hours. SP AusNet has now introduced a program to deal specifically with these meters.¹⁴³

SP AusNet provided historical data to indicate that it is successful in removing around 97 per cent of time expired meters in the required timeframe. However, due to being unable to access some meters, around 3 per cent of the time expired meters are not completed in the allotted timeframe and need to be addressed by this no access program. Based on the historical data provided, the AER is satisfied that this is an appropriate method for forecasting the volume of no access meters.

The AER considers the volume of meters to be replaced under this program is consistent with r. 74(2) of the NGR and prudent and efficient.

Industrial and commercial meter replacement volumes

SP AusNet proposed to replace 2,922 Industrial and Commercial meters with total capex of \$5.2m (\$2012, direct escalated costs, excluding escalation) over the 2013–17 access arrangement period. The industrial and commercial meter replacement strategy consists of a program to replace industrial and commercial meters that reach the end of their deemed life and a program to cover meter faults.

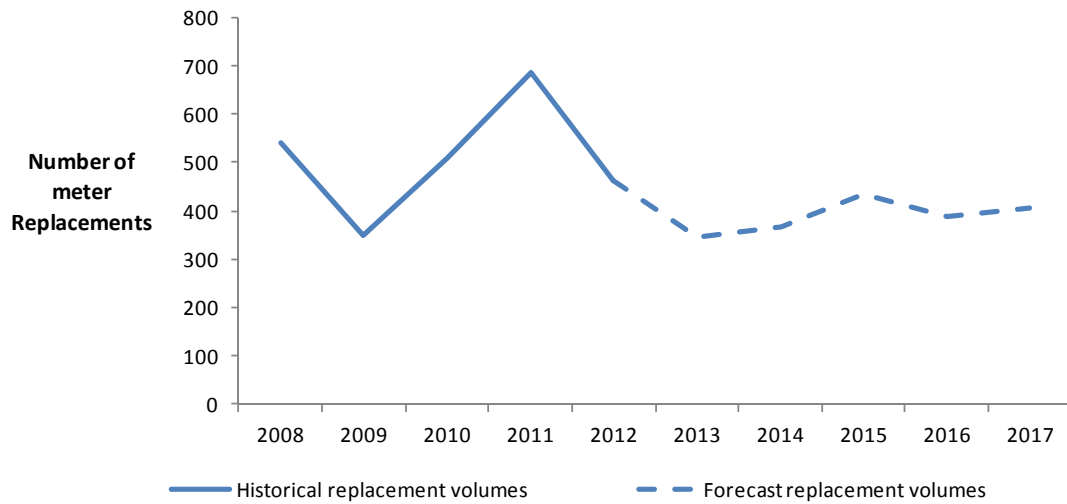
SP AusNet's proposed replacement volumes are depicted below in figure 3.5:

¹⁴¹ SP AusNet, *Response to information request 15 of 26 June 2012*, received 4 July 2012.

¹⁴² SP AusNet, *Response to information request 16 of 2 July 2012*, received 9 July 2012, p. 1.

¹⁴³ SP AusNet, *Response to information request 15 of 26 June 2012*, Received 4 July 2012, p. 24.

Figure 3.5 Meter replacement - forecast industrial and commercial meter replacements



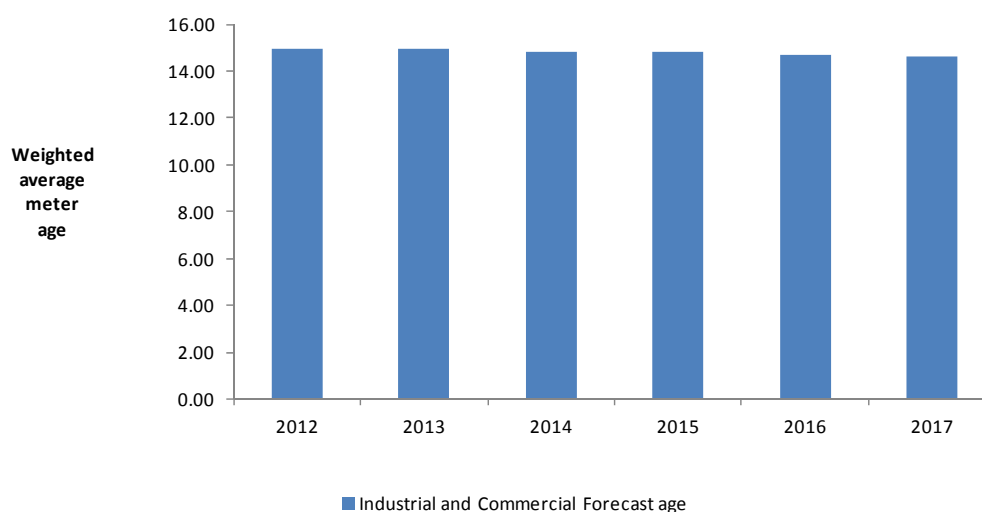
Source: SP AusNet.¹⁴⁴

Time expired replacement program

Industrial and commercial meters are not subject to meter sampling tests, and instead are allocated a deemed meter life and replaced just before the end of the deemed life.¹⁴⁵ The deemed meter life is approximately constant and similar across meter categories, as shown below in figure 3.6:

¹⁴⁴ SP AusNet, *Response to information request 4 of 18 May 2012*, received 1 June 2012, Q. 20 Final - Capital Expenditure.xlsx.
¹⁴⁵ ESC, *Gas Distribution System Code Version 9.0*, December 2008, Clause 7.2.3(b)(i).

Figure 3.6 SP AusNet forecast industrial and commercial meter replacement age



Source: SP AusNet.¹⁴⁶

SP AusNet identified the type and number of industrial meters which will need to be removed in each year as well as the year in which they were installed. As shown in figure 3.6, SP AusNet proposes to remove industrial and commercial meters shortly before the 15 year useful installed life expires. The AER considers this is a prudent and efficient approach to industrial and commercial meter replacements.

Meter faults program

SP AusNet proposed an allowance for an additional reactive replacement program which targets industrial and commercial meter faults. SP AusNet stated that the industrial and commercial meter fault category represents an average replacement rate of 1.2 per cent of the industrial and commercial meter population.¹⁴⁷ In response to an information request SP AusNet provided additional information on the historical number of industrial and commercial meter faults.¹⁴⁸ The historical data provided shows an increasing trend in the percentage of meter faults. The actual level of meter faults in 2011 was 1.2 per cent of the industrial and commercial meter population. The AER accepts that in the absence of compelling evidence of a continuation or reversal of the upwards trend that using an assumption that the 2011 actual rate of meter faults will continue is a reasonable estimate.

¹⁴⁶ SP AusNet, *Response to information request 4 of 18 May 2012*, received 1 June 2012, Q. 20 Final - Capital Expenditure.xlsx.

¹⁴⁷ SP AusNet, *Access Arrangement Information: Appendix 5B Meter Management Plan*, March 2012, p. 18.

¹⁴⁸ SP AusNet, *Response to information request 15 of 26 June 2012*, received 4 July 2012, p. 23–4.

Unit rates for residential and commercial and industrial

The AER considered the unit rates submitted by SP AusNet for the meter replacement program. SP AusNet's costs of the meter replacement program are forecast on the individual components of the meter replacement program. In response to additional information requests SP AusNet provided sufficient information to allow the AER to examine the:

- Costs of new and refurbished meters (for both residential and commercial meters)
- Labour costs (including both internal and external)
- Other costs—including transport costs and warehousing of refurbished meters

The blended unit rates for the subcomponents of SP AusNet's meter replacement program are set out in confidential attachment A. The AER notes that a majority of meters forecast to be replaced will be replaced with refurbished, rather than new meters. The cost of a refurbished meter is less than that of a new meter. The AER considers this strategy is one which contributes to achieving the lowest sustainable unit cost for meter replacements.

In response to an AER information request of 8 June 2012, SP AusNet provided a comprehensive cost build-up model demonstrating the manner in which SP AusNet has calculated its proposed meter replacement expenditure.¹⁴⁹ Additionally, SP AusNet provided a copy of contracts which covered the provision of the majority of the required materials and services.¹⁵⁰ The AER examined the contracts provided by SP AusNet and is satisfied that these costs are reflected in SP AusNet's cost build-up model. The AER examined the cost build-up model in detail and considers that the total unit rates are prudent and efficient. Accordingly, the AER considers that the unit rates proposed by SP AusNet comply with r.79(1)(a) of the NGR and are those which will be incurred by a prudent and efficient service provider.

Augmentation

Network augmentation capex is directed at increasing the capacity of the existing network to meet demand of existing and future customers. Augmentation capex is required to maintain gas pressure and minimise the risk of gas outages.

SP AusNet proposed a total forecast of \$23.1 million (\$2012, escalated direct costs, excluding overheads) for augmentation capex over the 2013–17 access arrangement period.

SP AusNet proposed augmentation capex is in response to significant growth in gas demand and customer numbers, which is attributed to strong residential growth, increasing use of gas fuelled appliances, and increasing uptake of gas in regional towns where gas has been rolled out under the natural gas extension program¹⁵¹.

The AER assessed SP AusNet's augmentation projects by considering the timing of the proposed works, the capacity benefit which results from the augmentation solution and

¹⁴⁹ SP AusNet, *Response to information request 8 of 8 June 2012*, received 22 June 2012, Q. 12 SPN Capital Forecast Model - capex.xlsx

¹⁵⁰ SP AusNet, *Response to information request 8 of 8 June 2012*, received 19 June 2012.

¹⁵¹ SP AusNet, *Access Arrangement Information*, March 2012, p. 114.

whether the input cost of each project represents the efficient, lowest sustainable cost. In undertaking this assessment the AER sought input from its engineering consultant, examined the business cases and requested further information from SP AusNet.

The AER considers that SP AusNet's augmentation expenditure is justifiable under r. 79(2)(c)(i)-(iii) of the NGR as it is necessary to maintain safety and the integrity of services and to meet minimum specified regulatory pressures.

Drawing on the advice of its engineering consultant, Zincara¹⁵², the AER considers that SP AusNet's proposed augmentation capex complies with r. 79(1) of the NGR for the following reasons:

- SP AusNet's proposed augmentation solutions are prudent given SP AusNet's forecast of connections growth and gas demand, which shows gas pressure declining below minimum gas pressures in constrained network areas in the year before the proposed augmentation, and
- the input costs of the augmentation projects are considered to be within a reasonable range of industry standard costs and reflect that of a prudent and efficient service provider.¹⁵³

SCADA

SP AusNet's Supervisory Control and Data Acquisition (SCADA) systems are used to control and monitor station plant remotely via Remote Telemetry Units (RTUs). This section relates to the SCADA assets, generally hardware, in the gas distribution network.¹⁵⁴

SP AusNet proposed total SCADA expenditure of \$4.5 million (\$2012, unescalated direct costs, excluding overheads) for the 2013–17 access arrangement period.

The main components of SP AusNet's SCADA program are:

- Upgrading all high and medium pressure networks to SCADA control
- Installing new communication radio base stations in response to network growth and replacing existing RTUs with GPRS communications
- Replacing defective or obsolete equipment
- Installing new fringe RTUs in response to network growth
- New remote pressure recorders
- New gas detectors
- Replacement of small components which are subject to failure including pressure transmitters, motors/pilots, fringe pressure switches and solar regulators¹⁵⁵.

¹⁵² Zincara, *Review of SP AusNet's Capital Expenditure*, September 2012, pp.15-24..

¹⁵³ Zincara, *Review of SP AusNet's Capital Expenditure*, pp.15-24

¹⁵⁴ This excludes the IT component of SCADA which is included with IT.

¹⁵⁵ SP AusNet, *Access Arrangement Information*, March 2012, p. 120.

SP AusNet submitted that these works are justifiable under r. 79(2)(c) of the NGR.

The AER assessed SP AusNet's SCADA projects by considering the justifications for the proposed works, and whether the unit costs represent the efficient, lowest sustainable cost. In undertaking this assessment the AER examined the business cases, considered historical costs and external benchmarks, and requested further information from SP AusNet.

SP AusNet stated that its forecast SCADA capex is based on historical costs, and provided a list of SCADA projects and costs completed in the current period. This shows variation between the unit costs depending on site factors, but the AER is satisfied that the forecast costs are within an acceptable range of actual past costs. The AER considers that this approach provides a reasonable basis for estimating the efficient cost of future works, and provides the best possible estimate in the circumstances, consistent with r. 74(2) of the NGR.

The AER considers SP AusNet's proposed SCADA capex is justifiable under r. 79(2)(c) of the NGR, and the unit costs for RTUs and other SCADA hardware are at efficient levels such as would be incurred by a prudent service provider.

The AER approves the total \$4.5 million (\$2012, unescalated direct costs, excluding overheads) of SP AusNet's proposed SCADA capex as conforming capex under r. 79(1) of the NGR.

Information technology

SP AusNet's proposals include IT systems to manage assets and works, customers, billing and back office functions and the underpinning infrastructure. This IT category includes the SCADA master station but excludes SCADA hardware.

SP AusNet proposed capex of \$58.1 million (\$2012, escalated direct costs, including overheads) or \$55.3 million (\$2012, escalated direct costs, excluding overheads).

SP AusNet's proposed IT program consists of:

- Asset and works management - a new integrated enterprise asset and works management platform to increase efficiency of end-to-end asset and works management processes
- Network management - improved outage management system and SCADA system upgrades, including improved pressure management to improve safety and maintain network integrity and customer service
- Customer and meter management - a new customer management system to maintain customer service levels
- Workforce collaboration - systems to support scheduling, dispatching and execution of work to improve safety and maintain customer service
- Analytics and reporting - improve analytics and reporting to maintain network capacity
- Back office management - ensure back office systems meet the increase in the volume of transactions
- ICT infrastructure and operations - ensure ICT infrastructure is capable of responding to changes in business requirements

- AMI systems and infrastructure capital expenditure - IT systems which SP AusNet shares across its various business operations (see table 3.17)¹⁵⁶.

Table 3.17 SP AusNet proposed IT project expenditure (\$million, 2012)^(a)

Initiatives	2013	2014	2015	2016	2017	Total
Asset and works management	1.7	0.2	0.2	0.1	3.2	5.4
Network management	0.0	1.7	0.0	2.4	0.8	4.9
Customer & meter management	1.9	0.0	3.9	0.0	0.0	5.8
Workforce collaboration	2.8	1.2	0.2	1.5	0.0	5.7
Back office management	2.9	0.3	1.2	0.0	0.0	4.4
Analytics and reporting	0.9	0.7	0.0	0.5	0.5	2.7
IT infrastructure & operations	5.8	7.8	6.1	4.1	4.5	28.2
AMI systems & infrastructure	1.0	0.0	0.0	0.0	0.0	1.0
Total	17.1	11.8	11.6	8.5	9.0	58.1

Source: SP AusNet.¹⁵⁷

Notes: (a) Escalated direct costs, including overheads.

SP AusNet submitted that the IT projects are justifiable under r. 79(2)(c) of the NGR.¹⁵⁸

SP AusNet stated that its capital program for the 2013–17 access arrangement period builds on IT programs that are shared across SP AusNet’s three network businesses –electricity distribution, electricity transmission, and gas distribution. SP AusNet noted that the ICT projects approved in the AER’s determination for the 2009 Advanced Metering Infrastructure (AMI) review and the last 2011 Electricity Distribution Price Review (EDPR) constitute 78 per cent of its proposed IT capex. In addition, SP AusNet stated that its allocation of AMI capex to its gas distribution business reflects its ability to more efficiently deliver the AMI program by leveraging IT systems across SP AusNet’s regulated networks.¹⁵⁹

In assessing SP AusNet’s proposed IT capex, the AER considered the justifications for and efficiency of the proposed works. The AER examined the business cases, obtained advice from the consultant Nous Group, considered historical costs and external benchmarks, and requested further information from SP AusNet.

The AER notes that in its EDPR and AMI review, it approved only the expenditures within the scope of the review - namely, for electricity distribution. It did not make determinations on the enterprise-wide costs for the projects or the amounts allocated to the gas business.

¹⁵⁶ SP AusNet, *Access Arrangement Information*, March 2012, p.123.

¹⁵⁷ SP AusNet, *Access Arrangement Information*, March 2012, p. 124.

¹⁵⁸ SP AusNet, *Access Arrangement Information*, March 2012, p.121.

¹⁵⁹ SP AusNet, *Access Arrangement Information*, March 2012, pp.122–123.

The AER accepts the advice of the Nous Group as to the prudence and efficiency of SP AusNet's IT programs. Consistent with r. 74(2) and r. 79(1) of the NGR, the AER considers that:¹⁶⁰

- the contingency allowance applied to projects is excessive by industry standards and should be reduced
- the labour component for several IT programs are above an efficient level and should be reduced.
- NECF costs should be removed, as the date for its introduction is uncertain. Actual costs can be allowed as a pass through when the NECF is introduced in Victoria.

The AER's draft decision is to approve \$48.6 million (\$2012, escalated direct costs, excluding overheads) of SP AusNet's proposed IT capex as conforming under r. 79(1) of the NGR.

Other non demand capex

Other non-demand capex is capital expenditure which generally relates to replacing and upgrading individual components of the distribution network or smaller upgrade projects.

The AER approves \$20.8 million (\$2012, direct escalated costs, excluding overheads) in 'other non-demand' capex over the 2013–17 access arrangement period. However, the AER does not approve \$3.6 million (\$2012, direct escalated costs) in 'other non-demand capex' over the 2013–17 access arrangement period. The AER does not approve this expenditure as it does not comply with r. 79(1) and r. 74(2) of the NGR. This is a reduction of 15 per cent from SP AusNet's proposed 'other non-demand capex' of \$24.4 million (\$2012, direct escalated costs, excluding overheads). The proposed and approved capex allowances for each project is set out in confidential attachment A.

Table 3.18 SP AusNet's Other-non demand Capex proposal (\$million, 2012)^(a)

	2013	2014	2015	2016	2017	Total
SP AusNet proposed	3.0	5.7	6.3	5.1	4.3	24.4
AER approved	2.5	4.3	5.0	4.9	4.1	20.8
Difference	-0.5	-1.4	-1.3	-0.2	-0.2	-3.6

Source: AER Analysis

Notes: (a) Escalated direct costs, excluding overheads.

SP AusNet proposed 23 capex projects which fit in the 'other non-demand' category. The AER considers that two of these projects (Alter/lower mains and Alter/lower service) actually fit in the mains replacement category and the AER has assessed them as mains expenditure. The AER considers that the City gate relocation project is part of the augmentation category and assessed it in that category. The AER also considers that one project (Major Alterations) which was proposed as part of connections capex is better allocated to other non-demand capex category. Accordingly the AER considers that there are 21 projects which fit in the

¹⁶⁰ Nous Group, *Victorian gas distribution access arrangement 2013-17: Review of IT expenditure, Final Report*, August 2012, pp. 39–41.

other non-demand category of capex, with a total proposed expenditure of \$24.4 million (\$2012, direct escalated costs, excluding overheads).

These projects generally relate to replacing outdated regulators, replacing or installing new waterbath heaters, relocating pipeworks due to encroachment or exposure and upgrading or replacing miscellaneous items. Detailed information concerning these projects is in the following confidential attachments to SP AusNet's submission:

- SP AusNet Asset Management Plan 2012–17
- Appendix 5J.1 - Transmission Pipeline Strategy
- Appendix 5J.2 - Regulating Facilities - Network Strategy
- Appendix 5J.4 - Regulating Facilities - Consumer Strategy
- Appendix 5J.6 - Exposed Pipework Strategy.pdf
- Appendix 5J.7 - Corrosion Protection Strategy.pdf
- SP AusNet GAAR Capital Expenditure Forecast Model.xls

In undertaking assessment of these projects, the AER examined the business cases provided by SP AusNet and where required requested further information from SP AusNet.

Projects which comply with NGL and NGR requirements

The AER considers that the following projects would be incurred by a prudent and efficient distribution business acting in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services:

- Grove Model 80 & 81¹⁶¹
- Rockwell Model 441 & 1001¹⁶²
- Grove Regulator Upgrade Program¹⁶³
- New heater installation¹⁶⁴
- Welker Jet Regulator replacement¹⁶⁵
- Grove Regulator replacement¹⁶⁶

¹⁶¹ SP AusNet, *Access Arrangement Information: Appendix 5J.4 Regulating facilities–consumer strategy*, March 2012, p. 4.

¹⁶² SP AusNet, *Access Arrangement Information: Appendix 5J.4 Regulating facilities–consumer strategy*, March 2012, p. 4.

¹⁶³ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁶⁴ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁶⁵ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

- Heater replacement¹⁶⁷
- Heater access platform¹⁶⁸
- Portable city gate¹⁶⁹
- City gate security upgrade¹⁷⁰
- Property Projects¹⁷¹
- Communications Equip/Projects¹⁷²
- M/V & Plant Purchases¹⁷³
- General Equipment & Furniture¹⁷⁴
- Major Alterations¹⁷⁵
- Corrosion Protection¹⁷⁶

Projects which do not comply with rule 74(2) of the NGR

The AER considers that the following project does not comply with r. 74(2) of the NGR because the forecast has not been arrived at on a reasonable basis:

- Miscellaneous I&C¹⁷⁷

SP AusNet proposed that capital expenditure is regularly incurred on minor ad hoc work at industrial and commercial sites.¹⁷⁸ This work is required due to a combination of OH&S, risk mitigation, regulatory, compliance, asset integrity and/or operational requirements.¹⁷⁹

¹⁶⁶ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁶⁷ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁶⁸ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁶⁹ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁷⁰ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 24.

¹⁷¹ SP AusNet, *Capital expenditure forecast model*, March 2012, GAAR_CapexForecast_Other_NonIT worksheet.

¹⁷² SP AusNet, *Capital expenditure forecast model*, March 2012, GAAR_CapexForecast_Other_NonIT worksheet.

¹⁷³ SP AusNet, *Capital expenditure forecast model*, March 2012, GAAR_CapexForecast_Other_NonIT worksheet.

¹⁷⁴ SP AusNet, *Capital expenditure forecast model*, March 2012, GAAR_CapexForecast_Other_NonIT worksheet.

¹⁷⁵ SP AusNet, *Access Arrangement Information: Appendix 5B Asset management plan*, March 2012, March 2012, p. 53.

¹⁷⁶ SP AusNet, *Access Arrangement Information: Appendix 5J.2 Regulating facilities–network strategy*, March 2012, p. 22.

¹⁷⁷ SP AusNet, *Access Arrangement Information: Appendix 5J.4 Regulating facilities–consumer strategy*, March 2012, p. 4.

¹⁷⁸ SP AusNet, *Access Arrangement Information: Appendix 5J.4 Regulating facilities–consumer strategy*, March 2012, p. 4.

¹⁷⁹ SP AusNet *Access Arrangement Information*, March 2012, p. 15.

The AER assessed this proposed expenditure and accepts that a prudent and efficient service provider would incur this capital expenditure. However, the AER considers that SP AusNet's forecast expenditure has not been arrived at on a reasonable basis. SP AusNet indicated that its forecast allowance is based on the historical level of expenditure.¹⁸⁰ In response to an information request by the AER, SP AusNet provided the historical capex on this category.¹⁸¹ The AER has examined SP AusNet's historical expenditure on miscellaneous capital works and found that it is considerably lower than SP AusNet's forecast for the 2013–17 access arrangement period. SP AusNet's historical expenditure is approximately 25 per cent of that proposed in the 2013–17 access arrangement period. SP AusNet has not provided justification for the forecast large increase in this category. Accordingly the AER considers that SP AusNet's forecast is not arrived at on a reasonable basis and does not represent the best forecast possible in the circumstances. The AER considers a forecast based on actual historical expenditure meets the r. 74(2) criteria of the NGR and would be the efficient expenditure incurred by a prudent business.

Projects which do not comply with rule 79(1) of the NGR

The AER considers that four of SP AusNet's other non-demand projects would not be undertaken by a prudent and efficient distribution business and so the proposed capex does not comply with r. 79(1)(a) of the NGR. The AER notes that these projects relate to specific network assets that SP AusNet considers may be areas of network vulnerability. SP AusNet considers the location of these network assets to be sensitive. Accordingly, the AER's consideration of these projects is set out in confidential attachment A.

The AER's does not approve these projects as the AER considers a prudent and efficient service provider would only undertake these projects if a risk assessment demonstrated that:

- The existing controls are ineffective. AS2885.3 2007¹⁸² states that controls are considered effective when failure as a result of that threat has been removed for all practical purposes at that location.
- The proposed expenditure is the most cost effective manner in which to institute effective controls.

As discussed in confidential appendix A, the AER does not consider that SP AusNet has demonstrated that it has undertaken robust risk assessments or quantified the current level of risk and degree to which it can be mitigated. As such, the AER does not consider these projects would be undertaken by a prudent and efficient service provider.

Extensions

Extension capex is directed at expanding the distribution network beyond its current boundaries. This allows distributors to expand into new markets and provides an opportunity to grow the distributor's customer base.

¹⁸⁰ SP AusNet, *Access Arrangement Information: Appendix 5J.4 Regulating facilities–consumer strategy*, March 2012, p. 25.

¹⁸¹ SP AusNet *Response to AER information request 11 of 18 June 2012*, received 27 June 2012, p. 1.

¹⁸² AS 2885. 1 - 2007: Pipelines - Gas and Liquid Petroleum Part 1: Design and Construction

SP AusNet proposed total capital expenditure of \$2.8 million (\$2012, escalated direct cost, excluding overheads)¹⁸³ to extend the gas distribution network approximately 3.5km north east of Bendigo to the Huntly Township. This includes 13.1km of reticulation work and the connection of up to 580 potential new customers.¹⁸⁴

The connection of natural gas to Huntly Township is part of the Victorian government's Energy for the Regions plan.¹⁸⁵ Under this plan the Victorian Government has made up to \$100 million available for connecting regional towns to natural gas supply. On 12 May 2012, Deputy Premier and Minister for Regional and Rural Development Peter Ryan announced agreement with SP AusNet to connect the gas distribution system to Huntly.¹⁸⁶

SP AusNet's costing and take up assumptions indicate that the cost of the project is not offset by the additional revenue that it is expected to generate. However, the capital contribution from the Victorian Government is calculated to make up this shortfall in revenue and ensure that SP AusNet's existing customers do not subsidise this extension. The AER notes that the Victorian Government has made a public commitment to this project and the AER considers this provides a firm indication to the AER that this planned project will proceed over the 2013–17 access arrangement period. Accordingly, this proposed capex is consistent with r. 79(2)(b) of the NGR.

The AER examined SP AusNet's cost build-up of the proposed extension. Specifically, the AER compared SP AusNet's proposed unit costs for the laying of mains, reticulation, installing meters and services against proposed costs for similar work. On the basis of this comparison the AER considers that SP AusNet's proposed capex complies with r. 79(1) of the NGR and is reflective of the costs that a prudent and efficient distribution business would incur to undertake this work. The AER notes that SP AusNet's proposal also included costs for design, project management and installation of a fringe RTU. The AER also considers that these are prudent and efficient incidental costs required to undertake this extension.

The AER approves SP AusNet's proposed expenditure for extending the gas distribution network to the Huntly Township in the 2013–17 access arrangement period. The AER considers that the proposed capex complies with r. 79(1)(a) and r. 79(2)(b) of the NGR.

Table 3.19 SP AusNet's extension capex (\$million, 2012)^(a)

	2013	2014	2015	2016	2017	Total
SP AusNet proposed	1.53	1.03	0.14	0.10	0.04	2.84
AER approved	1.53	1.03	0.14	0.10	0.04	2.84
Difference	0.0	0.0	0.0	0.0	0.0	0.0

Source: SP AusNet, AER analysis.

¹⁸³ This is expenditure covers the period 2013–2020. Direct expenditure over the 2013–17 access arrangement period is \$2.84 million.

¹⁸⁴ SP AusNet, *email to AER*, received 28 June 2012.

¹⁸⁵ Regional development Victoria, Energy for the regions, <http://www.rdv.vic.gov.au/infrastructure-programs/energy-for-the-regions>.

¹⁸⁶ Victorian State Government, Press release, <http://www.premier.vic.gov.au/media-centre/media-releases/3889-huntly-and-natural-gas-to-make-a-great-connection-.html>.

Notes: (a) Direct costs including escalation, excluding overheads.

Overheads

Overheads are costs which are not directly attributable to the distribution businesses output but are necessary to support the businesses operations. Examples of overhead costs include network planning, procurement and human resources.

SP AusNet proposed \$68.2 million (\$2012, escalated direct costs) in overheads expenditure for the 2013–17 access arrangement period (see table 3.20).

Table 3.20 SP AusNet's proposed overheads expenditure (\$million, 2012)

	2013	2014	2015	2016	2017	Total
Overheads expenditure	13.2	13.5	13.4	13.8	14.2	68.2

Source: SP AusNet¹⁸⁷, adjusted by the AER for information request revisions.

The methodology SP AusNet proposed for deriving overheads is to:

- use the 2011 estimate of overheads as the base
- estimate the labour and non-labour components of total overheads..
- escalate the labour component by SP AusNet's proposed labour escalation (see confidential appendix C)
- escalate the materials component by a factor which SP AusNet state reflects the growth in the capital program and the fixed/variable nature of the materials component¹⁸⁸.

SP AusNet derive an average overhead rate of 15.4 per cent over the access arrangement period for network capital expenditure. A 5.0 per cent overhead rate is applied to IT in recognition that overheads are significantly less and no overhead is applied to general capital expenditure.¹⁸⁹

The AER does not consider that the overhead expenditure provides a representative base for overheads for the 2013-17 period. There was a material variance in the overhead expenditure between years over 2008-11, thus the AER considers that an annual average of the 2008-11 overheads expenditure is more representative of the overheads base expenditure for the 2013-17 access arrangement period.

The AER requested that SP AusNet justify the labour/non-labour splits used. The AER does not consider that SP AusNet has provided evidence which supports the use of the proposed splits.

¹⁸⁷ SP AusNet, *Access Arrangement Information*, March 2012, p. 130.

¹⁸⁸ SP AusNet, *Access Arrangement Information*, March 2012, p. 129.

¹⁸⁹ SP AusNet, *Access Arrangement Information*, March 2012, p. 129.

The AER considers that there are likely to be changes to fixed costs where the scale of the business changes significantly. However, the AER does not consider, on the basis of the projected capital base approved by the AER, that the scale of SP AusNet's business is going to change such that a step up in the fixed proportion of overheads is warranted.

The AER considers that an appropriate alternative is to:

- Derive the base overhead cost by taking the 2008–11 average overhead expenditure, on the basis that actual overhead costs are revealed to be efficient
- Reflect changes in variable overhead costs by making a scaled adjustment of overheads in relation to the change in the net total capex across years. This consists of an annual adjustment derived by:
 - Calculating the change in the projected net direct capex between the year concerned and the former year
 - Deriving the proportional change in overheads relative to the change in the projected net total capex by multiplying the net direct capital expenditure by the average of the 2008–11 overheads share of total net capital expenditure divided by the average of the 2008 to 2011 direct cost share of total net capex
 - Multiplying the derived change in overheads by the estimated proportion of variable costs.

SP AusNet advised that "the majority of costs ... would be expected to be fixed in nature"¹⁹⁰. The AER therefore did not make any adjustment for variable overheads.

This approach results in a total overhead cost of \$57.9 million (\$2012) compared to the total overhead cost of \$68.2 million (\$2012) proposed by SP AusNet, a reduction of 15.1 per cent.

Government and customer contributions

SP AusNet proposed total customer contributions of \$15.5 million (\$2012) and government contributions of \$6.8 million (\$2012) over the 2013–17 access arrangement period for new customer connections, major alterations and the new gas extension program.

The AER has made reductions to Tariff V residential and commercial/industrial customer numbers in the assessment of new customer connections which has decreased Tariff V residential customer connections expenditure by 3.4 per cent and Tariff V commercial/industrial customer connections expenditure by 21 per cent. The customer contributions for residential and commercial/industrial customer connections are therefore scaled back accordingly.

The AER approves total customer contributions of \$14.9 million (\$2012) and government contributions of \$6.8 million (\$2012) over the 2013–17 access arrangement period.

¹⁹⁰ SP AusNet, *Response to Information Request 23*, received 23/7/12, p. 1.

3.4.3 Adjustments to labour and material escalation

The AER has revised down the labour and material escalation that was proposed by SP AusNet. Internal and external labour escalation has been revised down. Materials escalation has been revised to zero real escalation. This is discussed in confidential appendix C. This leads to the following further revisions to SP AusNet's proposed capex (see Table 3.21 and Table 3.22).

Table 3.21 AER approved capital expenditure by category over the 2013–17 access arrangement period with adjustments for the AER approved labour and material escalation (\$million, 2012)

Category	2013	2014	2015	2016	2017
Mains replacement	16.4	15.1	13.4	11.3	12.4
Residential connections	33.2	33.2	33.1	32.8	32.8
Commercial/ industrial connections	3.0	3.1	3.1	3.1	3.2
Residential meter replacement	4.8	5.1	4.5	4.3	4.2
Commercial/ industrial meter replacement	0.9	1.0	1.0	1.0	1.1
Augmentation	6.1	5.9	6.8	1.0	2.2
IT	13.6	13.0	6.9	7.5	7.6
SCADA	0.9	0.8	0.9	0.8	0.8
Other	2.5	4.2	4.8	4.7	3.7
Gas Extensions-NGEP	1.5	1.0	0.1	0.1	0.0
Capital overheads	11.6	11.6	11.6	11.6	11.6
Total gross capital expenditure	94.5	94.0	86.2	78.3	79.7
Customer contributions	2.8	2.9	3.0	3.1	3.1
Government contributions	1.0	2.7	1.0	1.0	1.1
Total net capital expenditure	90.7	88.4	82.2	74.2	75.5

Source: AER analysis.

Table 3.22 Comparison of AER approved including labour and material escalation adjustment and SP AusNet capital expenditure over the 2013-17 access arrangement period (\$million, 2012)

Category	SP AusNet proposed	AER approved excluding AER labour and material escalation adjustments	AER approved including AER labour and material escalation adjustments	Variance between SP AusNet proposed and AER approved including labour and material escalation adjustment
Mains replacement	141.1	73.4	68.6	-51.4%
Residential connections	182.7	176.4	165.1	-9.6%
Commercial/ industrial connections	19.7	16.6	15.6	-20.7%
Residential meter replacement	23.7	23.7	22.8	-3.6%
Commercial/industrial meter replacement	5.2	5.2	5.0	-4.3%
Augmentation	23.1	23.1	22.0	-4.9%
IT	55.3	48.6	48.6	-12.1%
SCADA	4.5	4.5	4.2	-5.0%
Other	24.4	20.8	19.9	-18.6%
Gas Extensions-NGEP	2.8	2.8	2.8	0.0%
Capital overheads	68.2	57.9	57.9	-15.1%
Total gross capital expenditure	550.8	453.1	432.6	-21.4%
Customer contributions	15.5	14.9	14.9	-3.6%
Government contributions	6.8	6.8	6.8	0.0%
Total net capital expenditure	528.5	431.5	411.0	-22.2%

Source: AER analysis

3.5 Equity raising costs

Equity raising costs are incurred when network service providers are required to raise equity. The AER's equity raising cost benchmark allowance allows for costs in the form of dividend reinvestment plan costs and seasoned equity offerings. Equity raising costs would be incurred

by a prudent service provider acting efficiently. Accordingly, the AER provides an allowance to recover an efficient amount of equity raising costs where a service provider's capex forecast is large enough to require an external equity injection (to maintain the benchmark 60 per cent gearing level).

To determine benchmark equity raising costs the AER relies on a method that was initially discussed in a 2007 Allen Consulting Group (ACG) report.¹⁹¹ This method was amended in the AER's decisions for the ACT, NSW and Tasmanian electricity service providers.¹⁹² The AER has applied this method in subsequent decisions for other electricity and gas service providers.¹⁹³ This approach has recently been further refined, as discussed and applied in the Powerlink final decision and in this draft decision.¹⁹⁴

Broadly, the AER's method applies the cash flow analysis in the post-tax revenue model (PTRM) to determine the required benchmark equity raising cost associated with forecast capex. This involves identifying a hierarchy of three methods for equity raising, with differing equity raising costs and availability for each method. This approach adopts the "pecking order" theory of capital structure. This theory predicts that an efficient service provider will seek to raise capital starting from the lowest cost forms and moving to higher cost forms as the lower cost forms are exhausted.¹⁹⁵ Specifically, the AER's application of this approach involves:

- First, service providers use retained earnings as a source of equity:
 - Annual retained earnings are calculated as the residual of internal cash flows less dividends to shareholders. Retained earnings for each year are converted to real dollar terms and totalled to determine retained earnings for the entire access arrangement period.
 - Dividends are set to be just sufficient to match the distribution of imputation credits consistent with the AER's gamma assumptions. For gas service providers, the AER adopts a payout ratio of 70 per cent.
 - The assumed debt component of forecast capex is equal to 60 per cent of the annual change in the RAB.
 - The equity component of forecast capex for each year is calculated as the residual of the total forecast capex and the assumed debt component. Similar to retained earnings, the equity component of forecast capex for each year is converted to real

¹⁹¹ ACG, Estimation of Powerlink's SEO transaction cost allowance—Memorandum, 5 February 2007.

¹⁹² AER, *Final decision, Australian Capital Territory distribution determination 2009–10 to 2013–14*, April 2009, appendix H; AER, *Final decision, New South Wales distribution determination 2009–10 to 2013–14*, April 2009, appendix N; AER, *Final decision, TransGrid transmission determination 2009–10 to 2013–14*, April 2009, appendix E; AER, *Final decision, Transend transmission determination 2009–10 to 2013–14*, April 2009, appendix E.

¹⁹³ AER, *Final decision, Victorian electricity distribution network service providers, Distribution determination 2011–2015*; AER, *Final Decision, Jemena Gas Networks, Access arrangement proposal for the NSW gas networks*, 1 July 2010 – 30 June 2015, June 2011.

¹⁹⁴ AER, *Final decision Powerlink Transmission determination 2012–13 to 2016–17*, April 2012, p. 151-2.

¹⁹⁵ ACG, Estimation of Powerlink's SEO transaction cost allowance—Memorandum, 5 February 2007.

dollar terms and totalled to determine the equity component for the entire access arrangement period.

- Second, service providers use dividends reinvestment plans:
 - The amount of equity raised in this manner is capped. It is assumed that a maximum of 30 per cent of dividends paid are returned to the service provider via a dividend reinvestment plan. The total of reinvested dividends required for the access arrangement period, therefore, is determined as the minimum of the sum of the real reinvested dividends for each year and the shortfall in retained earnings required to fund the equity component of forecast capex.
- Third, service providers use seasoned equity offerings encompassing both rights issues and placements

The requirement for external equity funding via seasoned equity offerings is the shortfall, if any, in retained earnings required to fund the equity component of forecast capex and the total of reinvested dividends.

Based on the need for any dividend reinvestment plans and seasoned equity offerings, the AER assigns transaction unit costs for each form of equity funding. These figures are based on the AER's empirical review in assessing the benchmark costs for raising equity finance:

- Retained earnings – 0 per cent
- Dividend reinvestment plans – 1 per cent of total dividends reinvested
- Seasoned equity offerings – 3 per cent of total external equity required.

The AER considers that these unit costs represent the efficient costs required to raise equity in current market conditions. This is because they have been suitably estimated by the AER¹⁹⁶ and ACG,¹⁹⁷ and subsequently reviewed.¹⁹⁸

The total benchmark equity raising cost is then amortised over the weighted average standard asset life of SP AusNet's RAB to provide the equity raising cost allowance associated with forecast capex in the 2013–17 access arrangement.

The AER considers that this method represents the approach that a prudent service provider acting efficiently would apply in raising equity, given its particular capital raising requirements. This is because the method:

- assumes that service providers first use the cheapest sources of equity
- takes account of all the likely sources of equity
- takes account of the requirements of a prudent service provider acting efficiently, by using the inputs and outputs of the PTRM as found by the AER to be efficient.

¹⁹⁶ Final decision, TransGrid transmission determination 2009–10 to 2013–14, April 2009, pp. 233–244.

¹⁹⁷ ACG, Debt and Equity Raising Transaction Costs, Final Report to the Australian Competition and Consumer Commission, December 2004, p xiii, 65.

¹⁹⁸ Handley, *A note on the cost of raising debt and equity capital*, April 2009.

The AER has applied the updated ACG equity raising method to estimate the indicative costs and total allowance for SP AusNet, shown in Table 3.24. The AER will update this analysis again for the final decision based on the final capex allowance to be determined at that time.

SP AusNet used the AER's preferred method of calculating equity raising costs based on the ACG report, which determined that no equity raising costs were required.¹⁹⁹ However, the proposal did not incorporate the adjustments that the AER made to the equity raising cost method in the April 2012 Powerlink final decision (the final decision was not available at the time SP AusNet made its proposal).

After considering the equity raising costs proposed by Powerlink for its 2012–17 access arrangement, the AER modified its standard estimation method so that it accommodated the netting of future equity raising surpluses against prior deficits. The AER made this adjustment because it is reasonable to assess equity raising costs over the entire access arrangement period. This reflects management control over the timing of equity offerings (if required). To achieve this, the AER converted retained cash flows, the equity portion of the capex funding requirements and reinvested dividends from nominal dollar term estimates to real dollar term estimates. The AER then determined the subsequent requirement for equity raising costs across the entire access arrangement period.²⁰⁰ This approach removes the need for implicit assumptions regarding the timing of equity raisings. It also ensures that the allowance for equity raising costs for the access arrangement period reflect the external equity that is forecast to be required.²⁰¹ The AER still considers this updated method is more appropriate and provides a better benchmark for equity raising costs. The AER will therefore require SP AusNet to incorporate this adjustment.

Also, SP AusNet's used a dividend payout ratio of 100 per cent.²⁰² This is not consistent with the imputation credit payout ratio of 70 per cent that is used to determine gamma. The cashflows should be consistent with the PTRM inputs and outputs and so the AER considers that 70 per cent for the imputation credit payout ratio is appropriate.

Based on the AER's method, the cash flow analysis calculated in the PTRM for SP AusNet's benchmark equity raising cost is shown in table 3.23 and table 3.24. Table 3.23 sets out (in nominal terms) the derivation of the required new equity for the network service provider. The second part of the cashflow analysis (in real terms) derives the benchmark allowance for raising this equity and is set out in Table 3.23. These tables demonstrate that SP AusNet does not require an equity raising cost allowance because based on the level of forecast capex.

¹⁹⁹ SP AusNet, *2013-2017 Gas Access Arrangement Review – Access Arrangement Information*, March 2012, p. 160.

²⁰⁰ In contrast, the AER's previous cash flow analysis calculated dividend assessments, cash flows and funding requirements in nominal dollar terms only. Based on these nominal values, the cash flow analysis determined annual dividend reinvestment plan and seasoned equity offering costs. The annual costs were converted into real dollar term (2011–12) estimates, and totalled to provide the equity raising cost allowance for the entire regulatory control period. For the refinements, see rows 32 to 45 of the 'Equity raising cost-capex' tab in the AER's final decision PTRM for SP AusNet.

²⁰¹ AER, *Final decision Powerlink Transmission determination 2012–13 to 2016–17*, April 2012, p. 151-2.

²⁰² SP AusNet PTRM 'equity raising costs' cell G45.

Benchmark equity raising costs

The AER has applied its updated equity raising costs method along with the updated PTRM inputs and outputs to determine that SP AusNet requires no benchmark equity raising costs.

Table 3.23 AER's final decision cash flow analysis for SP AusNet's benchmark equity raising cost (\$million, nominal)

Cash flow analysis	Total (\$million, nominal)	Notes
Dividends	50.70	Set to distribute imputation credits assumed in the PTRM (70 per cent).
Dividends reinvested	15.21	Availability of reinvested dividends, capped at 30% dividends paid.
Capex funding requirement	436.25	Forecast capex funding requirement (including half year WACC adjustment).
Debt component	195.68	Set to equal 60% of annual change in RAB.
Equity component	240.58	Residual of capex funding requirement and debt component.
Retained cash flow available for reinvestment	306.39	Exclude dividends reinvested.
Equity required	-65.82	Equals equity component less retained cash flows.

Source: AER analysis.

Table 3.24 AER's final decision cash flow analysis for SP AusNet's benchmark equity raising cost (\$million, 2012–13)

Cash flow analysis	Total (\$million, 2012–13)	Notes
Equity component	223.21	Residual of capex funding requirement and debt component.
Retained cash flow available for reinvestment	286.27	Exclude dividends reinvested.
Equity required	-63.06	Equals equity component less retained cash flows.
Dividends reinvested	13.94	Availability of reinvested dividends, capped at 30% dividends paid.
Dividend reinvestment plan required	0.00	Required reinvested dividends.
Seasoned equity offerings required	0.00	Required seasoned equity offerings (SEOs).
Cost of dividend reinvestment plan	0.00	Required reinvested dividends multiplied by benchmark cost.
Cost of seasoned equity offerings	0.00	Required SEOs multiplied by the benchmark cost.
Total equity raising costs	0.00	Sum of costs of dividend reinvestment plan and SEOs. To be added to the RAB at the start of the regulatory control period.

Source: AER analysis

3.5.2 Concordance table between SP AusNet's categories of expenditure and the AER's driver categories

For the purposes of analysis the AER has categorised SP AusNet's categories of expenditure into driver categories. The AER driver categories are the same categories used by the Essential Services Commission of Victoria in assessing the Victorian gas distribution businesses' 2008–12 access arrangement proposals. Using these driver categories facilitates the analysis of expenditure across access arrangements periods.

Table 3.25 sets out the concordance between SP AusNet's categories of expenditure, which are used in SP AusNet's Access Arrangement Proposal, and the AER's driver categories, which have been applied in this attachment.

Table 3.25 Concordance between SP AusNet's categories of expenditure and the AER's driver categories

SP AusNet Proposal-Category of Expenditure	AER driver categories
Customer Initiated	Residential connections
	Commercial/industrial connections
Augmentation / Reinforcement	Augmentation
Network Integrity	Other
Reactive Asset Replacement	Mains replacement
Mains Replacement	Mains replacement
Meter Replacement	Residential meter replacements
	Commercial/industrial meter replacements
SCADA & Innovation	SCADA
IT	IT
General	Other
	Overheads
TOTAL	Gross Total
	Customer contributions
	Government contributions
	Net total

3.6 Revisions

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

Amendment 3.1:

Make all necessary amendments to reflect the AER's draft decision on capital expenditure by asset class over the earlier access arrangement period, as set out in Table 3.9.

Amendment 3.2:

Make all necessary amendments to reflect the AER's draft decision on forecast capex by asset class over the access arrangement period, as set out in Table 3.10.

4 Rate of return

The rate of return is an input to the building block approach that the Australian Energy Regulator (AER) uses to determine total revenue for each regulatory year of the access arrangement period. The rate of return is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.²⁰³

The AER calculated SP AusNet's return on capital building block by multiplying the rate of return with the value of its projected capital base. Consistent with SP AusNet's access arrangement proposal and previous AER gas decisions, the AER adopted a rate of return that is based on a nominal vanilla weighted average cost of capital (WACC) formulation.

4.1 Draft decision

The AER does not approve SP AusNet's proposed (indicative) rate of return of 9.06 per cent. The AER withholds its approval because, in the AER's opinion, 7.16 per cent (subject to updating) is a preferable alternative that is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.²⁰⁴

SP AusNet's proposed rate of 9.06 per cent is based on market data from November-December 2011. The AER's draft decision rate of 7.16 per cent is based on market data from July-August 2012. SP AusNet's proposed rate of return method, if also applied to market data from July-August 2011, would result in a proposed rate of 8.40 per cent.

Both SP AusNet's proposed rate of return method, and the AER's draft decision method in this draft decision, are to be applied using market data for the risk free rate and debt risk premium (DRP) updated closer to the time of the final decision. The AER's draft decision method involves updating the risk free used in both the cost of equity and cost of debt. SP AusNet's proposed method involves only updating the risk free rate used in the cost of debt.

The AER considers a 7.16 per cent rate of return (subject to updating) provides SP AusNet with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects SP AusNet will be able to attract funds to support the efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers.

The AER agrees with the following aspects of SP AusNet's proposed rate of return method:

- 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

²⁰³ NGR, r. 87.

²⁰⁴ The AER's adoption of this rate is subject to the risk free rate and debt risk premium parameters being updated closer to the date of the final decision.

- adopting a market risk premium (MRP) of 6 per cent
- adopting an equity beta of 0.8.
- specifying the cost of debt as the debt risk premium over the risk free rate
- determining the debt risk premium 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 seven year fair value curve
- extrapolating the Bloomberg BBB rated seven year fair value curve to a 10 year maturity (consistent with the definition of the benchmark bond) using paired bond analysis²⁰⁵
- adopting a 60 per cent gearing ratio
- adopting the inflation forecasting method based on short term Reserve Bank of Australia (RBA) forecasts and the mid-point of the RBA's inflation targeting band

But the AER does not agree with the following aspect of SP AusNet's proposal:

- adopting a long term historical average risk free rate in the cost of equity. Rather, the AER adopts a short term averaging period sampled as close as practicably possible to the commencement of the access arrangement period, as explained in section **Error! Reference source not found.**

Table 4.26 sets out the individual WACC parameters and consequent (indicative) rate of return determined by the AER.

Table 4.26 AER's draft decision on SP AusNet's rate of return (nominal)

Parameter	SP AusNet proposal	AER draft decision
Nominal risk free rate (cost of equity)	5.99%	2.98% ^a
Nominal risk free rate (cost of debt)	3.99% ^a	2.98% ^a
Equity beta	0.8	0.8
Market risk premium	6%	6%
Debt risk premium	3.92% ^a	3.76% ^a
Gearing level	60%	60%
Inflation forecast	2.5% ^a	2.5% ^a
Gamma	0.25	0.25

²⁰⁵ The paired bonds extrapolation method was determined by PwC, in a report commissioned by SP AusNet and the Victorian gas distribution service providers. However, PwC (and subsequently SP AusNet) appears to have incorrectly applied the selection criteria outlined in its proposal to select the relevant paired bonds. Accordingly, the AER has corrected this error in applying SP AusNet's proposed paired bonds extrapolation method. PwC, *SP AusNet, Multinet Gas, Envestra and APA Group: Estimating the benchmark debt risk premium*, March 2012.

Nominal post-tax cost of equity	10.79% ^a	7.78% ^a
Nominal pre-tax cost of debt	7.91% ^a	6.74% ^a
Nominal vanilla WACC	9.06% ^a	7.16% ^a

Source: ACCC decision; SP AusNet, Access arrangement proposal, March 2012 and AER analysis.

a Indicative only. The risk free rate, debt risk premium and inflation forecast will be updated closer to the date of the final decision.

The rate of return in this draft decision (7.16 per cent) is similar to the rate of return determined by the AER recently in the APTPPL final decision (7.31 per cent).²⁰⁶ However, the rate of return in this decision for SP AusNet is lower than the rate of return determined by the AER in decisions before that time. 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 SP AusNet agree on the approach to determining the cost of debt. The cost of debt has fallen by approximately one per cent compared with AER decisions from earlier this year.²⁰⁷ Hence, the AER and SP AusNet 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 comfort that a fall in the overall rate of return, in itself, is not unreasonable.

SP AusNet'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 AER acknowledges that SP AusNet was concerned with the impact of the lower risk free rate on its overall rate of return. The AER has carefully considered the consequences of the low CGS yields and is confident that CGS yields remain the most appropriate proxy of the risk free rate in Australia. This position is supported by advice from the Reserve Bank of Australia (RBA). The AER has also considered whether or not the MRP should be increased from that used in previous decisions. The AER remains of the view that a 6 per cent MRP is commensurate with prevailing conditions in the market for funds.

4.2 Assessment approach

In this section, the AER considers:

- The requirements of the national gas law and rules on the rate of return
- The approach to selecting a well accepted model and approach for determining the rate of return
- Fixed principles on the rate of return in SP AusNet's access arrangement

²⁰⁶ AER, *Final decision: APT Petroleum Pipeline Pty Ltd, Access arrangement final decision, Roma to Brisbane Pipeline 2012–13 to 2016–17*, August 2012, p. (AER, *Final decision: APTPPL access arrangement*, August 2012).

²⁰⁷ AER, *Final distribution determination, Aurora Energy Pty Ltd 2012–13 to 2016–17*, April 2012, p. 29, (AER, *Final decision: Aurora distribution determination*, April 2012)

- The approach to determination each parameter within that well accepted approach and model
- The approach to reasonableness checks on the overall rate of return

4.2.1 Requirements of the national gas law and rules on the rate of return

In this section the AER considers the requirements of the NGR and NEL on the rate of return, including in the interpretation of relevant provisions of the NGR in recent Tribunal decisions.

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 rule operates as follows:

- Rule 87(1) describes the objective in determining the WACC but not how to achieve the objective.
- Rule 87(2) describes how to achieve the objective, 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 input parameters for the well accepted approach and well accepted financial model. Those 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 Australian Competition Tribunal's (Tribunal) position in two recent decisions: the ATCO (formerly WA Gas Networks) matter and the DBNGP matter.²⁰⁸ It is also consistent with the AER's approach in previous decisions.²⁰⁹ The AER thus applied this approach in making its draft decision on SP AusNet's rate of return.

Rule 87 is a full discretion provision. This means the AER may, but is not bound to, approve SP AusNet's proposed rate of return if that rate complies with, and is consistent with, the

²⁰⁸ 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.

²⁰⁹ AER, *Final decision: APT Petroleum Pipeline Pty Ltd, Access arrangement final decision, Roma to Brisbane Pipeline 2012-13 to 2016-17*, August 2012, p. 58-59 (AER, *Final decision: APTPPL access arrangement*, August 2012)..

NGL's and NGR's requirements and criteria. The AER has the discretion to withhold its approval if it considers a preferable alternative exists that complies with, and is consistent with, those requirements and criteria. Further, if an access arrangement contains a fixed principle on the rate of return then that fixed principle is binding on the AER and the service provider for the period for which the principle is fixed.²¹⁰

If the AER does not approve SP AusNet's access arrangement, then the AER must formulate an access arrangement that accounts for:

- the matters that the NGL and NGR require an access arrangement to include
- the service provider's access arrangement proposal, and
- the AER's reasons for refusing to approve that proposal.²¹¹

This list is not exhaustive, and the service provider's proposal is not the only source of information that the AER considers when assessing the proposed rate of return. Other regulatory processes provide many relevant information sources, because issues with the cost of capital are generally not specific to a service provider. Further, many issues have evolved across a long history of consideration by the AER and other regulators.

The AER considers information that includes:

- previous AER decisions, including the AER's 2009 review of WACC parameters for electricity service providers (the WACC review) and resulting Statement of Regulatory Intent (SRI)
- the service provider's proposal
- expert reports commissioned by the AER, the service provider and other stakeholders
- the decisions of the Tribunal
- the decisions of other economic regulators, particularly in Australia
- submissions

In 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 national gas objective.²¹² Either the AER's approval or withholding of its approval of SP AusNet's proposed rate of return—and in the case of the latter the AER's determination of a preferable rate of return—is an AER economic regulatory function or power. The national gas objective is:

... 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.

²¹⁰ NGR r. 99 (3).

²¹¹ NGR r. 64(2).

²¹² NGL s. 28(1).

In addition, the AER must account for the revenue and pricing principles when approving or making the parts of an access arrangement that relate to a reference tariff.²¹³ The rate of return is such a part, so the AER must account for the following²¹⁴:

- A service provider should have a reasonable opportunity to recover at least the efficient costs that it incurs in providing reference services
- A service provider should have effective incentives to promote economic efficiency in the reference services that it provides. That economic efficiency should include efficient investment in, or connection with, a pipeline that the service provider uses to provide reference services.
- A reference tariff should allow for a return that matches the regulatory and commercial risks from providing the reference services to which that tariff relates.
- A reference tariff should account for the economic costs and risks of potential under or over investment by a service provider in a pipeline that the service provider uses to provide pipeline services.

4.2.2 Selection of well accepted approach and model

In its access arrangement proposal, SP AusNet proposed the WACC approach, weighted 40 per cent to equity and 60 per cent to debt. SP AusNet 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.

The AER approves both SP AusNet'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 SP AusNet to determine the cost of equity and debt are also well accepted.²¹⁵

4.2.3 Fixed principles on the rate of return

In accordance with r. 99(4)(a) of the NGR, the AER sought and received SP AusNet's consent to revoke the fixed principle in clause 7.2(4) of its 2008–2012 access arrangement. The fixed principle requires that the return on capital building block is calculated using a real (post tax) rate of return. In contrast, the AER's standard PTRM calculates the return on capital building block using a nominal post tax rate of return. SP AusNet's access arrangement proposal used the AER's standard PTRM for modelling its revenue requirements, and accordingly proposed to apply a nominal rate of return for the purposes of calculating the return on capital. However, the NGR requires that fixed principles included in SP AusNet's access arrangement are binding on both SP AusNet and the AER for the period over which they are fixed.²¹⁶ Revoking the fixed principle removes the inconsistency between SP

²¹³ NGL s. 28(2)(a)(i)

²¹⁴ NGL, s. 24.

²¹⁵ Australian Competition Tribunal, *Application by WA Gas Network Pty Ltd (No 3) [2012] ACompT*, 8 June 2012, paragraph 64.

²¹⁶ NGR, r. 99(3).

AusNet's fixed principle and its access arrangement proposal. Accordingly, the AER revokes the fixed principle in clause 7.2(4) of SP AusNet's 2008-12 access arrangement.

4.2.4 Approach to the determination of specific parameters

Risk free rate

The risk free rate measures the return that an investor would expect from an asset with no default risk. As with other WACC parameters, the risk free rate should reflect prevailing conditions in the market for funds. It cannot be directly observed, but bonds issued by the Australian Government (CGS) are its most appropriate proxy. This is because the risk of the government defaulting on these bonds is low. CGS yields are readily observable.

The AER accepts SP AusNet's proposed approach for calculating the risk free rate for the cost of debt but not the cost of equity. (SP AusNet provided the AER with an averaging period on a confidential basis.) The approach involves observing the yield on 10 year CGS over a short period (10–40 days) commencing as close as possible to the beginning of the regulatory period. This approach produces a risk free rate that reflects prevailing conditions in the market for funds.²¹⁷ The AER applied this approach to determining the risk free rate when estimating both the cost of equity and the cost of debt. It articulated this approach in the WACC review in 2009, and the approach is consistent with other recent decisions by the AER.

Market risk premium

The AER accepts 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 estimated 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. It 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 not specific to an individual asset or business.

While the MRP cannot be directly observed, methods are available to infer investor expectations at any point in time. These methods include examining historical excess returns, conducting surveys of the MRP used by practitioners and academics, employing the dividend growth model (DGM) and using other financial market indicators such as an implied volatility approach. The National Gas Law and Rules (NGL and NGR) do not specify a particular method for measuring the MRP.

Academic literature and reports by regulated businesses²¹⁸ recognise the evidence available for estimating the MRP is imprecise and subject to interpretation. Experts do not agree on either the appropriate method or the assumption for different methods. In addition, each method has strengths and limitations, and may give conflicting outcomes.²¹⁹ For these

²¹⁷ NGR, rule 87(1)); Section 1.3.1 below contains evidence for why this approach is consistent with the rules.

²¹⁸ See, for example, VAA, *Market risk premium, a review paper*, August 2008, pp. 3–4.

²¹⁹ See, for example, R. Mehra and E.C. Prescott, *Journal of Monetary Economics*, The equity premium, a puzzle, 15, 1985, pp. 145–61; A. Damodaran, *Equity risk premiums (ERP), determinants, estimation and implications*,

reasons, judgment must be exercised in determining an MRP value for determining an appropriate rate of return. The Australian Competition Tribunal recognised this problem in the recent Envestra decision.²²⁰

The AER considers the MRP should be based on considerations relevant to the MRP. Maintaining the integrity of each parameter promotes robustness in the parameter's estimation. While that integrity is important, the AER also recognises the economic interdependencies between parameters when they exist.

The AER accepts SP AusNet's proposed MRP of 6 per cent²²¹. Consistent with previous decisions, the AER determined an MRP of 6 per cent is appropriate by assessing a range of evidence. It interpreted the information available, accounting for the advantages and limitations of all evidence. In the case of complex and conflicting evidence, the AER exercised regulatory judgment.

Equity beta

The AER approach for this draft decision begins with conceptual analysis of equity beta, then proceeds with rigorous empirical analysis using a comparator set of listed firms that best match the benchmark. Finally, the equity beta estimate is cross checked against other estimates derived from less relevant data, such as overseas firms or other regulated sectors.

The conceptual analysis undertaken by the AER frames the later empirical analysis. In the AER approach the empirical analysis is the primary determinant of equity beta, even though it is not the first step. Further, although the cross checks use empirical evidence, this is given less weight because of the reduced relevance of these firms (overseas or in other industry sectors) to the characteristics of the benchmark firm.

In evaluating both the conceptual and empirical evidence, the AER sought advice from finance experts Professor McKenzie and Associate Professor Partington of the University of Sydney.²²²

In arriving at the estimate of the equity beta, the AER has regard to the level of precision in the available empirical evidence, consistent with the AER's previous regulatory practice.

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.

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.

²²⁰ Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 4*, 11 January 2012, paragraph 146.

²²¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 189.

²²² 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, (McKenzie and Partington, *Estimation of equity beta*, April 2012).

The AER's assessment approach for this draft decision is consistent with that adopted in the AER's recent final decision for the Roma to Brisbane Pipeline.²²³ That is, the AER has estimated 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 was also adopted by SP AusNet.

Method used to estimate the DRP

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

- the Bloomberg BBB rated fair value curve to estimate the (base) seven year DRP
- the average annual increment observed across bonds of differing maturities issued by the same company, to extrapolate the seven year DRP estimate to 10 years.

AER observations on recent Tribunal decisions and bond issuances

The AER has previously noted analysis demonstrating the extrapolated Bloomberg BBB rated fair value curve resulted in a DRP higher than that indicated from market evidence.²²⁴ In particular, this evidence included observed bond data and independent market commentary.

Further, the AER has previously proposed a means of estimating the DRP which made use of market evidence on Australian bond yields.²²⁵ Prior to the implementation of this approach in a final decision, however, the Tribunal released its decision for the Envestra and APT Allgas reviews.²²⁶ Notably, the Tribunal stated that the Bloomberg fair value curve should be used to determine the DRP unless there are sound reasons to depart from that practice. Moreover, any alternative method should be determined in consultation with the relevant regulated entities and other interested parties.²²⁷ In light of these Tribunal statements, the AER relied on the extrapolated Bloomberg fair value curve for estimating the DRP. The AER was particularly mindful of the Tribunal's recommendation that a public consultation process be completed before an alternative methodology was adopted.

²²³ AER, *Final decision: APTPPL access arrangement*, August 2012.

²²⁴ AER, *Draft decision: Powerlink: Transmission determination 2012-2017*, November 2011, pp. 225–229.

²²⁵ 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.

²²⁶ Australian Competition Tribunal, *Application by Envestra Limited (No 2)* [2012] ACompT 3, 11 January 2012; see also Australian Competition Tribunal, *Application by APT Allgas Energy Ltd* [2012] ACompT 5, 11 January 2012.

²²⁷ 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.

Subsequently, the Tribunal has made two decisions that also dealt with the determination of the DRP.²²⁸ These decisions upheld the use of the ‘bond-yield approach’ adopted by the ERA.²²⁹ That is, an alternative bond yield approach to that used by the AER in which the DRP was estimated by averaging observed bond yields that met certain criteria.²³⁰ The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.²³¹ The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.²³² Such a weighted average was implemented by the ERA on remittal.²³³

If the bond-yield approach (with the weighting method adopted in the ERA’s revised decision) was applied to SP AusNet, the DRP would be 2.72 per cent.²³⁴ This is below the DRP of 3.82 per cent derived using the extrapolated Bloomberg fair value curve (as per SP AusNet’s proposed method).²³⁵

Additionally, the AER has observed recent bond issues from firms which have similar characteristics to the benchmark firm. These are shown in table 4.27, below:

Table 4.27 Observed recent bond issuances—network service providers

Issuer	Date of issue	Amount (\$million)	Type	Term (years)	Yield at issue (per cent)	DRP (per cent)
SPI Electricity and Gas	21 June 2012	205	Fixed	10	5.95	2.96
Powercor Australia	19 April 2012	200	Fixed	5	5.80	2.51
United Energy	3 April 2012	200	Fixed	5	6.50	2.95

²²⁸ 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.

²²⁹ 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.

²³⁰ Specifically, all bonds (sourced from Bloomberg) were from Australian companies, denominated in Australian dollars and issued in Australia. Further, bonds could be either fixed or floating and either bullet, callable or puttable. Different scenarios used other slightly different criteria, such as a minimum term (two or five years), and a range of credit ratings (BBB-/BBB/BBB+ or BBB/BBB+).

²³¹ 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.

²³² 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 two 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.

²³³ ERA, *Revised decision, Access arrangement revisions for the Mid-West and South-West Gas Distribution System*, 25 June 2012, pp. 5–12.

²³⁴ Based on SP AusNet’s indicative averaging period, this ‘bond-yield approach’ estimate incorporates 60 bonds with an average term to maturity of 5.94 years.

²³⁵ This estimate reflects the paired bonds extrapolation sample proposed by SP AusNet.

Distribution						
ETSA Utilities	1 March 2012	200	Fixed	5	6.27	2.60
SPI Australia	10 FEB 2012	400	Fixed	5	6.29	2.75

Source: Bloomberg.

Consistent with the AER's observations previously, the AER considers that the Bloomberg fair value curve continues to provide DRP estimates which are higher than other potential approaches (such as the ERA's approach). The Bloomberg fair value curve also provides estimates which are high in comparison to recent bond issuances from firms with similar characteristics to the benchmark firm. For these reasons, the AER has commenced an internal review into alternatives to the Bloomberg fair value curve. The AER will advise of a public consultation process on the development of an alternative in due course.

Forecast inflation

The AER adopts the methodology that was used in its previous regulatory decisions. This methodology involves:

- forecasting inflation for each of the next 10 years, consistent with the use a 10 year term for the risk free rate and other WACC parameters
- taking a geometric average of these values to estimate a 10 year forecast inflation rate
- adopting the RBA's headline inflation forecasts from its latest Statement on Monetary Policy for as many future years as the RBA publishes inflation forecasts, and
- adopting the mid-point of the RBA's inflation target (2.5 per cent) for the remaining futures years out to year 10.

4.2.5 Reasonableness check on overall rate of return

In section 4.2.1, the AER sets out its approach to the determination of each parameter within the overall rate of return. In addition, the AER has undertaken reasonableness checks on the overall rate of return. These checks involve having regard to RAB multiples as well as the discount rates in broker reports.

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)²³⁶. It gives limited consideration to the overall WACC estimates, in accordance with the relevant legislation.

4.3 Reasons for draft decision

In forming this draft decision, the AER has considered an extensive range of material on the rate of return. This includes SP AusNet's access arrangement proposal, the other Victorian gas service providers' proposals, and the submissions into these reviews from users. The AER has also sought a range of expert advice to assist in making these decisions—from the

²³⁶ NGR, r. 87.

RBA, Treasury, AOFM, Professor McKenzie, Associate Professor Partington and Associate Professor Lally.

In this review, SP AusNet, proposed a 6 per cent MRP but adopted a long run historical average risk free rate (5.99 per cent) for the cost of equity.²³⁷ The other Victorian gas distribution service providers also proposed this approach. APA GasNet held a similar concern but proposed a different approach.²³⁸ APA GasNet proposed a higher MRP (8.5 per cent) because it considered the AER's approach to the cost of equity in previous decisions resulted in a cost of equity that is too low in current market conditions.²³⁹

On the other hand, BHP Billiton submitted that the MRP is between 5-6 per cent.²⁴⁰ The Energy Users Coalition of Victoria (EUCV) considered the AER should adopt a 5 year term for the risk free rate and an equity beta of 0.65.²⁴¹ The 5 year term was adopted by the ERA in its access arrangement decision for the Dampier to Bunbury Natural Gas Pipeline (DBNGP).²⁴² The Tribunal found no error in ERA's position on these matters.²⁴³ Incorporating any of the changes proposed by users to the term, equity beta or MRP would result in a lower cost of equity than applying the AER's approach from previous decisions.

In this draft decision, the AER has maintained its cost of equity approach of adopting a prevailing risk free rate (currently 2.98 per cent), an equity beta of 0.8 and a 6 per cent MRP.

In this review, SP AusNet proposed adopting the extrapolated Bloomberg fair value curve to estimate the DRP.²⁴⁴ This results in a DRP of 3.82 based on current market data.²⁴⁵ The other Victorian gas service providers also proposed this approach.²⁴⁶ BHP Billiton considered this method was appropriate but also considered there was merit in the AER exploring alternative methods.²⁴⁷

On the other hand, the EUCV considered the DRP should be no more than 195 basis points above the risk free rate (based on a 5 year term).²⁴⁸ The EUCV noted this resulted in a DRP similar to the ERA's approach.

In the ATCO and DBNGP matters, the Tribunal upheld the use of the 'bond yield' approach adopted by the ERA.²⁴⁹ Under this approach the DRP is estimated by averaging observed

²³⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 189.

²³⁸ Envestra, *Access arrangement information*, 31 March 2012, p. 158; Multinet, *Access arrangement information*, 30 March 2012, p. 154.

²³⁹ APA GasNet, *Access arrangement submission*, 31 March 2012, p. 141.

²⁴⁰ BHP Billiton, *Submission to the AER: APA GasNet access arrangement proposal*, 29 June 2012, p. 9.

²⁴¹ Energy Users Coalition of Victoria, *Submission to the AER: APA GasNet access arrangement proposal*, 18 June 2012, pp. 57-58.

²⁴² ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline*, Submitted by DBNGP (WA) Transmission Pty Ltd, 31 October 2011, pp. 130.

²⁴³ Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 137.

²⁴⁴ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 185-186.

²⁴⁵ This estimate reflects the paired bonds sample proposed by SP AusNet. .

²⁴⁶ Envestra, *Access arrangement information*, 30 March 2012; SP AusNet, *Access arrangement information*, 30 March 2012; Multinet, *Access arrangement information*, 30 March 2012.

²⁴⁷ BHP Billiton, *Submission to the AER: APA GasNet access arrangement proposal*, 29 June 2012, p. 17.

²⁴⁸ Energy User's Coalition of Victoria, *Submission to the AER: APA GasNet access arrangement proposal*, 18 June 2012, p. 50.

bond yields that meet certain criteria.²⁵⁰ The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.²⁵¹ The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.²⁵² Such a weighted average was implemented by the ERA on remittal.²⁵³ If the bond-yield approach (with the weighting method adopted in the ERA's re-determination) was applied to SP AusNet, the DRP would be 2.72 per cent.²⁵⁴

Consistent with the AER's observations previously, the AER considers that the Bloomberg fair value curve continues to provide DRP estimates which are higher than other potential approaches (such as the ERA's approach). The Bloomberg fair value curve also provides estimates which are high in comparison to recent bond issuances from firms with similar characteristics to the benchmark firm. For these reasons, the AER has commenced an internal review into alternatives to the Bloomberg fair value curve. The AER will advise of a public consultation process on the development of an alternative in due course. However, the AER does not expect to implement any new method in time for SP AusNet's forthcoming access arrangement period. This follows the Tribunal's previous comments on the consultation approach that should be adopted in the development of any new approach.²⁵⁵

In this draft decision, the AER has maintained adoption of the extrapolated Bloomberg BBB rated fair value curve. This currently provides a cost of debt of 6.74 per cent, or DRP of 3.76 per cent.²⁵⁶

Taking SP AusNet's proposal and the submissions from stakeholders together, the AER is satisfied that the rate of return in this draft decision (subject to updating) is commensurate with prevailing conditions in the market for funds and the risks involved with providing reference services.

²⁴⁹ 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.

²⁵⁰ Specifically, all bonds (sourced from Bloomberg) were from Australian companies, denominated in Australian dollars and issued in Australia. Further, bonds could be either fixed or floating and either bullet, callable or puttable. Different scenarios used other slightly different criteria, such as a minimum term (two or five years), and a range of credit ratings (BBB-/BBB/BBB+ or BBB/BBB+).

²⁵¹ 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.

²⁵² 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 two 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.

²⁵³ ERA, *Revised decision, Access arrangement revisions for the Mid-West and South-West Gas Distribution System*, 25 June 2012, pp. 5–12.

²⁵⁴ Based on SP AusNet's indicative averaging period, this 'bond-yield approach' estimate incorporates 60 bonds with an average term to maturity of 5.94 years.

²⁵⁵ 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.

²⁵⁶ This estimate reflects an adjustment to SP AusNet's proposed extrapolation approach. This adjustment is discussed in detail in attachment 4 of this draft decision.

4.3.1 The Capital Asset Pricing Model (CAPM)

A financial model must be a well accepted model if it is to be used for determining a return on capital. The Sharpe Lintner CAPM is a well accepted financial model. As noted by the AER during the WACC review, the Sharpe Lintner CAPM has been consistently and constantly adopted by regulators and market practitioners. The AER is not aware of any instances where an Australian regulator has adopted an alternative model. Truong, Partington and Peat found that 72 per cent of Australian businesses who responded to their survey adopt the (Sharpe) CAPM in formulating their capital budgeting decisions.²⁵⁷

SP AusNet proposed to use the Sharpe Lintner CAPM to determine the cost of equity.²⁵⁸ SP AusNet, however, also submitted a report from NERA on the Black CAPM. It used the NERA report to cross check the cost of equity estimates derived from the Sharpe Lintner CAPM.²⁵⁹ The AER accepts SP AusNet's proposal to use the Sharpe Lintner CAPM to determine the cost of equity for use in the WACC because it is a well accepted financial model and will produce results commensurate with prevailing market conditions. The AER's considerations of the use of the Black CAPM to cross check cost of equity estimates are detailed in appendix B.

4.3.2 Risk free rate

The AER agrees with SP AusNet's proposed method for estimating the risk free rate for the cost of debt.²⁶⁰ The AER does not agree with SP AusNet's proposed method for estimating the risk free rate for the cost of equity.²⁶¹ The method used in this decision is consistent for both the cost of debt and the cost of equity and reflects prevailing conditions in the market for funds. The AER considers the method reflects prevailing conditions in the market for funds because CGS yields represent the most appropriate proxy for the risk free rate because:

- CGS are low risk
- the CGS market is liquid and functioning well, as confirmed by advice from the Reserve Bank of Australia (RBA), the Australian Treasury and the Australian Office of Financial Management (AOFM)²⁶²
- the RBA advised 'CGS yields are the most appropriate measure of a risk free rate in Australia'.²⁶³

Further, the AER considers the most appropriate averaging period for determining the risk free rate is a short period (as close as possible to the start of the regulatory period) because:

²⁵⁷ AER, *Final decision: WACC review*, May 2009, p. 335.

²⁵⁸ SP AusNet, *Access arrangement information*, March 2012, p. 183.

²⁵⁹ SP AusNet, *Access arrangement information*, March 2012, p. 185.

²⁶⁰ SP AusNet, *Access arrangement information*, March 2012, pp.185-186

²⁶¹ SP AusNet, *Access arrangement information*, March 2012, pp. 180, 189.

²⁶² Australian Treasury and Australian Office of Financial Management, *Letter to the ACCC: The Commonwealth Government Securities Market*, 18 July 2012, p. 2 (Treasury and AOFM, *Letter regarding the CGS Market*, July 2012).

²⁶³ Reserve Bank of Australia, *Letter to the ACCC: The Commonwealth Government Securities Market*, 16 July 2012, (RBA, *Letter regarding the CGS market*, July 2012).

- at any point in time, the prevailing risk free rate is the benchmark that the expected return on a risky investment must exceed
- prevailing 10 year CGS yields reflect the risk free rate over the appropriate forward looking investment horizon (which is 10 years)
- CGS yields are market determined—that is, prevailing CGS yields reflect the return that investors are willing to receive on an investment that is almost default risk free in current market conditions
- this approach promotes the regulatory objective that the present value of a service provider's expected revenue should match the present value of a service provider's expected expenditure (plus or minus any efficiency rewards or penalties)
- the use of prevailing CGS yields is consistent with the use of the building block model because this model is designed to uphold the present value principle
- the use of prevailing CGS yields is consistent with the use of the CAPM. In the ActewAGL matter, both the expert for the AER (Associate Professor Lally) and the expert for the service provider (Greg Houston) agreed on this matter.²⁶⁴
- this approach provides an unbiased method for determining the risk free rate
- advice from Professor McKenzie and Associate Professor Partington, and from Associate Professor Lally supported the use of a prevailing risk free rate.²⁶⁵

The AER recognises that CGS yields are near historical lows, but that fact does not invalidate any of the above reasons. The current historically low CGS yields are not surprising, and reflect what would be expected of a well functioning risk free rate proxy in current demand and supply conditions. In the Telstra matter, the Australian Competition Tribunal stated 'it is not unusual for yields to move from time to time in order to reflect prevailing market conditions and the expectations about the prospect for prices into the future'.²⁶⁶

CGS yields—the most appropriate proxy for the risk free rate

CGS are low default risk securities issued by the Australian Government. The risk free rate measures the return an investor would expect from an asset with no default risk. Each of the three major credit rating agencies issued its highest possible rating to the Australian Government.²⁶⁷

²⁶⁴ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 148.

²⁶⁵ M. McKenzie, and G. Partington, *Report to the AER: Supplementary report on the equity market risk premium*, 22 February 2012, pp. 11–12, (McKenzie and Partington, *Supplementary report on the MRP*, February 2012); M. Lally, *The risk free rate and the present value principle*, 22 August 2012, p. 3 (Lally, *Risk free rate and present value*, August 2012).

²⁶⁶ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 417.

²⁶⁷ Standard and Poor's, viewed 17 August 2012, www.standardandpoors.com/prot/ratings/entity-ratings/en/au/?entityID=268976§orCode=SOV; Moody's, viewed 5 September 2012, <http://www.moodys.com/credit-ratings/Australia-Government-of-credit-rating-75300>; Fitch Ratings, viewed 5 September 2012, <http://www.fitchratings.com/gws/en/esp/issr/80442187>

The spreads between CGS yields and the yields on other Australian dollar denominated securities have widened in recent years.²⁶⁸ On this increase, the RBA advised:

This widening indeed confirms the market's assessment of the risk free nature of CGS and reflects a general increase in the risk premia on other assets.²⁶⁹

In the recent DBNGP matter, the Australian Competition Tribunal stated:

The Tribunal notes here that the risk free rate of return is a clearly defined, if abstract, concept. It measures the return on a bond that carries no risk for the investor. It is widely accepted that the closest approximation to such a bond will be government debt.²⁷⁰

Further, the RBA and Australian Treasury advised the ACCC on two occasions that the CGS market is liquid and functioning well.²⁷¹ The ACCC sought the first set of advice (received August 2007)²⁷² in response to a NERA report submitted by SP AusNet. Both the RBA and Australian Treasury at that time suggested nominal CGS yields were an appropriate proxy for the risk free rate.²⁷³ On the other hand, both suggested indexed CGS yields were unlikely to provide an appropriate proxy for the real risk free rate.²⁷⁴ The AER subsequently ceased using indexed CGS to determine inflation expectations.²⁷⁵

In July 2012, the Treasury and AOFM stated:

The nominal CGS market is liquid and continues to display the attributes of a well-functioning market.

In support of this position, they listed several indicators of liquidity:

- the turnover of Treasury bonds, which steadily increased from around \$60 billion per month in early 2009 to almost \$300 billion per month in June 2012 (inclusive of repurchase transactions)
- bid-offer spreads, which fell between 2008 and June 2012²⁷⁶
- repurchase ('repo') margins. The 'repurchase agreement rates on CGS do not indicate any degree of 'tightness'".²⁷⁷

A recent speech by Rob Nicholl, chief executive officer of the AOFM, also supported the conclusion that the CGS market is liquid.²⁷⁸ His comments suggested the AOFM has confidence that the CGS market is "resilient and highly functional".²⁷⁹

²⁶⁸ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

²⁶⁹ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

²⁷⁰ Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 116.

²⁷¹ 'Liquidity means that you do not have to accept a discount from true value if you want to sell the asset quickly.' R. Brealey, S. Myers, G. Partington, and D. Robinson, *Principles of Corporate Finance*, McGraw-Hill Australia: First Australian Edition, 2007., p. 1082.

²⁷² Reserve Bank of Australia, *Letter to the AER*, August 2007; Australian Treasury, *The Treasury Bond yield as a proxy for the CAPM risk-free rate*, August 2007.

²⁷³ Reserve Bank of Australia, *Letter to the AER*, August 2007, p. 1; Australian Treasury, *The Treasury Bond yield as a proxy for the CAPM risk-free rate*, August 2007, p. 1.

²⁷⁴ Reserve Bank of Australia, *Letter to the AER*, August 2007, p. 1; Australian Treasury, *The Treasury Bond yield as a proxy for the CAPM risk-free rate*, August 2007, p. 1.

²⁷⁵ AER, *Final decision: SP AusNet Transmission determination - 2008-09 to 2013-14*, January 2008, p. 12.

²⁷⁶ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

²⁷⁷ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

Further, the Australian Government has a policy of issuing sufficient CGS to ensure liquidity in the market.²⁸⁰ The Australian Treasury and AOFM stated:

In the context of the 2011-12 Budget, the Government consulted a panel of financial market participants and financial regulators as part of its deliberations on the future of the CGS market. The panel concluded that to maintain a liquid and efficient bond market that supports the futures market and the requirements of the new global bank and liquidity standards, the CGS market should be maintained at around 12 to 14 per cent of GDP over time. The projected amount of CGS on issue over the forward estimates should remain marginally higher than these levels.²⁸¹

The liquidity of the CGS market provides the AER with confidence that market prices accurately reflect investor expectations and market conditions.

Appropriate averaging period and method

The AER considers the best method for determining an appropriate risk free rate is to use an averaging period as close as possible to the beginning of the regulatory period. The following sections outline why the AER holds this view.

Prevailing 10 year CGS yield is a forward looking 10 year rate

The prevailing 10 year CGS yield is a forward looking rate. The prevailing 10 year CGS yield varies over time, but this variation does not mean the yield is a 'short term' rate. Rather, according to the expectations theory on the term structure of interest rates, at any point in time the yield on long dated bonds (such as 10 year CGS) incorporates the market's expectation of the yield on shorter dated bonds over the next 10 years. The expectations theory on the term structure of interest rates is explained in section 2.2.1. This theory is generally regarded as an important part of the expectation of the term structure of interest rates.²⁸²

CGS yields are market determined

CGS yields are set in a market. Changes in yields for securities traded in a liquid market are likely to reflect the actions of many market participants at each point in time. So, market determined CGS yields are likely to reflect prevailing conditions in the market for funds. On its own, a price that is low relative to historical averages is not a sign that CGS are no longer a good proxy for the risk free rate. The current CGS yields are likely to reflect strong demand from foreign investors and a general re-assessment of the value of a risk free asset. Lower yields (higher prices) are an expected outcome from increased demand for those assets.

The Treasury and the AOFM noted this point:

²⁷⁸ Rob Nicholl, *After the Storm - Does it Get Easier?*, Australian Business Economists Speech, Sydney, 22 May 2012.

²⁷⁹ Rob Nicholl, *After the Storm - Does it Get Easier?*, Australian Business Economists Speech, Sydney, 22 May 2012, p. 7.

²⁸⁰ Initially stated in 02-03 Budget, www.budget.gov.au/2003-04/bp1/html/bst7.htm; reaffirmed in 11-12 Budget, www.budget.gov.au/2011-12/content/bp1/html/bp1_bst7-03.htm

²⁸¹ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 3.

²⁸² The 'liquidity premium' theory and the 'preferred habitat' theory identify other important determinants of the term structure of debt. Elton et. al., *Modern Portfolio Theory and Investment Analysis* 8th ed. (2010), pp. 516—521. These concepts are discussed further in Appendix B.

The weak and fragile global economy has put downward pressure on benchmark global long-term bond yields, and is driving investors into high quality government debt. 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.²⁸³

An alternative conclusion might be that CGS are currently overpriced. If the price of CGS exceeds their fair value, then the corresponding yield will be 'too low'. But, to draw such a conclusion, the AER would need information superior to that of market participants, or it must 'know better' than the many traders whose interactions set the price of CGS. The AER does not possess a greater ability, expertise or knowledge than market participants and traders to counter any market determination.

In previous advice, Professor McKenzie and Associate Professor Partington explained the relationship between the prevailing risk free rate and investment decisions:

There seems to be an implication in some of the submissions that there is something wrong with using the government bond rate as the risk free rate when government bond rates are low. The fundamental point to be made is that the government bond rate sets the current benchmark that a risky project has to beat. Clearly there is little point in taking on a risky project if you can get the same or higher return by investing in a government bond. The government bond thus sets a benchmark; the time value of money.^{284 285}

They also advised:

At the time of writing investors can invest in a 10 year government bond at yield of 3.84%. So a ten year project that offers say 4.5% is worth considering if the risk is low enough. The fact that government bond yields were higher in the past does not make 4.5% a bad deal, or 3.84% too low a benchmark. We see no reason to switch from using the current 10 year government bond yield as the proxy for the risk free rate.²⁸⁶

Since the AER received this advice in February 2012, the 10 year CGS yield has further decreased. For the 20 business day period ending on 10 August, it was 2.98 per cent. The logic in Professor McKenzie and Associate Professor Partington's advice continues to apply. In prevailing market conditions, 2.98 per cent is the benchmark that a risky project must exceed. So, what is the appropriate risk premium above this rate that reflects market conditions and the risk in providing reference services? In the Sharpe-Linter CAPM, the risk premium is the product of the equity beta and the MRP. The AER considers the appropriate equity beta and MRP in sections 4.3.5 and 4.3.3.

In the Telstra matter, the Australian Competition Tribunal acknowledged CGS yields vary over time:

It is not unusual for yields to move from time to time in order to reflect prevailing market conditions and the expectations about the prospect for prices into the future. A downward movement in yields over this period is therefore hardly anomalous, given market conditions.²⁸⁷

²⁸³ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 1.

²⁸⁴ McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 11–12..

²⁸⁵ The advice was provided for the AER's final determination on Aurora. Many of the contentions made in that process are also being made in this process.

²⁸⁶ McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 12.

²⁸⁷ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 417.

Prevailing CGS yields are consistent with the CAPM

For the following reasons, using a CGS yield estimated as close as practical to the beginning of the access arrangement period is consistent with the CAPM. The AER and SP AusNet agreed the CAPM is an appropriate model for estimating the cost of equity. Inputs to a model must be appropriate for using in that model,²⁸⁸ so individual equity parameters in this decision must be consistent with the CAPM framework.

The CAPM uses the most current information to derive the rate of return. In theory, it would use the risk free rate on the day (in this case, the beginning of the regulatory period), as recognised by the Federal Court in *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639 (the ActewAGL matter).²⁸⁹

During the ActewAGL matter, Associate Professor Lally for the AER and Greg Houston for APTPPL agreed on the best approach to estimating the risk free rate that is consistent with the CAPM. The Federal Court acknowledged this agreement:

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.²⁹⁰

Associate Professor Lally also advised:

In relation to the Sharpe-Lintner model, this model always requires a risk free rate prevailing at a point in time for some subsequent period rather than a historical average and application of the model to a regulatory situation would require the risk free rate prevailing at the beginning of a regulatory period.²⁹¹

The risk free rate needs to be consistent with the building block approach and present value principle

For the risk free rate, an averaging period that is as close as practical to the start of the regulatory period promotes consistency with the building block model and the present value principle. The NGR prescribe the use of the building block model when the AER is calculating the total revenue allowance. The model has a long history in regulation in Australia.²⁹²

An important principle of the building block model is the present value principle. In a 2011 paper on public utility regulation in Australia, Dr Darryl Biggar explained the origins of the building block model and what it seeks to achieve.²⁹³ The present value principle in a regulatory context requires:

²⁸⁸ Discussed further in section 4.2.1.

²⁸⁹ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June, 2011, paragraph 119.

²⁹⁰ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 119.

²⁹¹ Lally, *Risk free rate and present value*, August 2012, p. 3.

²⁹² Biggar, D., *Public utility regulation in Australia: Where have we got to? Where should we be going*, Working paper no. 4, ACCC/AER working paper series, July 2011.

²⁹³ Biggar, D., *Public utility regulation in Australia: Where have we got to? Where should we be going*, Working paper no. 4, ACCC/AER working paper series, July 2011, p. 58. A similar description of the building block model supported by more detailed analysis can be found in Biggar, D., *Incentive regulation and the building block model*, 28 May 2004, pp. 2-21, accessed on 27 August 2012, <http://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ACE2004&paper_id=133>.

The present value of the regulated firm's revenue stream should match the present value of its expenditure stream, plus or minus any efficiency incentive rewards or penalties (the present value principle).²⁹⁴

In his report for the AER, Lally advised this present value principle is met when the risk free rate is estimated at the beginning of the regulatory control period.²⁹⁵ Lally also considered the proposition of using a long term historical average risk free rate. (Appendix B discusses long term averaging periods.) He advised this approach would not meet the present value principle.²⁹⁶

The averaging period should be short

A short averaging period provides a reasonable estimate of the prevailing rate while not exposing service providers to unnecessary volatility. It is a pragmatic alternative to using a risk free rate that precisely ensures the present value principle holds. The rate of return must be estimated in a manner consistent with not only that principle, but also the building block model and the CAPM. Lally stated all three require a risk free rate estimated at the beginning of the regulatory period²⁹⁷—literally, the first market price on the first day of the regulatory period.²⁹⁸ He noted:

... the use of this transaction would expose the regulatory process to reporting errors, an aberration arising from an unusually large or small transaction, and a rate arising from a transaction undertaken by a regulated firm for the purpose of influencing the regulatory decision.²⁹⁹

A short term averaging period as close as practically possible to the regulatory period provides a pragmatic alternative. While the present value principle requires the use of the prevailing rate on the first day of the regulatory period, that approach would be unreasonable and impractical. It would be unreasonable because it would expose the service provider to potential distortions, as Lally described. And it would be impractical because the AER and the service provider could not enact the decision until after the beginning of the regulatory period, which may be after the final decision date. An averaging period between 10 and 40 business days in length provides a practical and reasonable solution.³⁰⁰

On the other hand, Lally noted a long term average would more significantly violate the present value principle without providing any pragmatic gain:

Rates averaged over a much longer historical period would be inconsistent with the present value principle, i.e., they would violate it without offering any incremental pragmatic justification.³⁰¹

The AER does not consider a long term averaging period is an appropriate and reasonable departure from the present value principle.

²⁹⁴ Lally, *Risk free rate and present value*, August 2012, pp. 5-6

²⁹⁵ Lally, *Risk free rate and present value*, August 2012, p. 3

²⁹⁶ Lally, *Risk free rate and present value*, August 2012, p. 3

²⁹⁷ Lally, *Risk free rate and present value*, August 2012, p. 3

²⁹⁸ Lally, *Risk free rate and present value*, August 2012, p. 7

²⁹⁹ Lally, *Risk free rate and present value*, August 2012, p. 7

³⁰⁰ AER, *Final decision—WACC Review*, May 2009, pp. 173-174

³⁰¹ Lally, *Risk free rate and present value*, August 2012, p. 7.

The method is unbiased

Determining the averaging period in advance helps achieve an unbiased risk free rate. For this reason, the AER's approach to determining the risk free rate in this decision is unbiased.

Service providers have an incentive to seek a WACC that is as high as possible, because it will increase their profits. If a service provider can select an averaging period by looking at historical yields, they may introduce an upward bias³⁰² because they can select a period with the highest yield available. But, when an averaging period is agreed or specified in advance regulatory gaming is less likely because the risk free rate is unknown for that future period.

The possibility of upward bias also applies to a long term average. Determining the averaging period for a long term average introduces arbitrariness, and no long term averaging period is clearly superior for use. The AER does not consider historical estimates are needed in this case, because a proxy for the risk free rate is readily available. It thus considers a short averaging period, determined in advance, minimises the likelihood of bias.

4.3.3 Market risk premium

The AER accepts SP AusNet's proposal for an MRP of 6 per cent. The AER notes the 6 per cent MRP was proposed in line with the 20 year historical average risk free rate of 5.99 per cent. SP AusNet also suggested an alternative approach of using a prevailing risk free rate with a forward looking measure of the MRP³⁰³. In this section, by applying the approach set out in section 4.2.4, the AER still considers an MRP of 6 per cent is the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds.

Given evidence on the MRP is imprecise, the AER considers it is reasonable to assess a range of evidence to estimate the MRP. It considers an MRP of 6.0 per cent is the best estimate in the circumstances and given prevailing conditions in the market for funds, for the following reasons:

- Historical excess returns provided 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.
- Professor McKenzie and Associate Professor Partington advised the AER that a 6 per cent MRP estimate was appropriate. Associate Professor Lally broadly supported the AER's method for estimating the MRP.
- MRP is an economy wide measure, and other regulators in Australia have consistently adopted an MRP estimate of 6 per cent under the same CAPM framework.
- In 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 Australian Competition Tribunal was open for the regulators to adopt 6 per cent for the MRP in these decisions.

³⁰² Lally, M., *Expert Report of Martin Thomas Lally*, 13 February 2011, pp. 9-10. Lally's comments in this report were made about a specific approach proposed in the relevant determination but are consistent with the approach taken by the AER in this decision.

³⁰³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 181-184.

- Surveys of market practitioners consistently supported 6 per cent as the most commonly adopted value for the MRP. They also indicated that the average MRP adopted by market practitioners was approximately 6 per cent.

The AER discusses these considerations in the sections below.

In reaching this view, the AER also considered:

- DGM estimates
- other approaches suggested by consultants
 - CEG approaches
 - Capital Research DGM estimates
 - the NERA regime switching model
 - the SFG method (implied volatility, credit spread and dividend yield)
 - the VAA implied volatility glide path approach
- market commentary
- reasons for the AER's departure from the WACC review.

The AER discusses these considerations in appendix B.

Historical excess returns

Historical excess returns estimate the realised return that stocks have earned in excess of the 10 year government bond rate. So, they are likely to inform investors' expectations of future returns. The AER observed the latest historical excess returns (which can be directly measured) are 4.9–6.1 per cent based on arithmetic averages and 3.0–4.7 per cent based on geometric averages. It considers these estimates support a forward looking long term MRP of 6 per cent. Given 6 per cent is towards the top of the quoted range, it is more likely to overstate the MRP based on historical excess returns.

Although not strictly forward looking, historical excess returns have predominantly been used to estimate the MRP on the assumption that investors base their forward looking expectations on experience. The Tribunal recognised this view in the DBNGP matter.³⁰⁴ In a regulatory context, the use of historical excess returns has 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.

³⁰⁴ Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 153.

- Historical estimates are widely used and have support as the benchmark method for estimating the MRP in Australia.³⁰⁵

A few studies indicated there is no better forecast of excess returns than the historical average.³⁰⁶ Goyal and Welch examined the performance of variables that academic literature suggested as good predictors of the equity premium. These variables include dividend yield, earnings price ratio, corporate bond returns and volatility. Goyal and Welch found:

As of the end of 2005, most models have lost statistical significance, both IS [in-sample] and OOS [out-of-sample]. OOS, most models not only fail to beat the unconditional benchmark (the prevailing mean) in a statistically or economically significant manner, but underperform it outright.³⁰⁷

The long term averages of historical excess returns, adjusted to incorporate an imputation credit utilisation rate (theta) of 0.35³⁰⁸, 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) over the periods 1883–2011, 1937–2011, 1958–2011, 1980–2011 and 1988–2011 (Table 4.28). The starting point for each of the five estimation periods was chosen because the quality of the underlying data sources changed (in 1883, 1937, 1958 and 1980) and the imputation tax system was introduced (in 1988).³⁰⁹

Table 4.28 Historical excess return estimates—assuming a use rate of distributed imputation credits of 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

^a Indicates estimates are statistically significant at the 5 per cent level using a two tailed test.

Source: Handley.³¹⁰

³⁰⁵ 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)

³⁰⁶ Boudoukh, Richardson and Whitelaw, *Myth of long-horizon predictability*, *Review of financial studies*, July 2008, vol. 21, no. 4, pp. 1577–605; Timmermann, *Elusive return predictability*, *International journal of forecasting*, January – March 2008, vol. 24, no. 1, pp. 1–18; Goyal and Welch, *A comprehensive look at the empirical performance of equity premium*, *Review of financial studies* v, 2008, vol. 21 n, no. 4, pp. 1455–508.

³⁰⁷ Goyal and Welch, *A comprehensive look at the empirical performance of equity premium*, *Review of financial studies* v, 2008, vol. 21 n, no. 4, p. 1504.

³⁰⁸ The 0.35 value for theta is consistent with the Australian Competition Tribunal's position in *Application by Energex Limited (Gamma) (No 5) [2011] ACompT9*, November 2009.

³⁰⁹ Brailsford, Handley and Maheswaran, *Re-examination of the historical equity risk premium in Australia*, *Accounting and Finance*, vol. 48, 2008, pp. 85-86.

³¹⁰ Handley, *An estimate of the historical equity risk premium for the period 1883 to 2011*, April 2012, p. 6. Handley's estimates of the arithmetic averages starting in 1883 and 1958, updated to 2011, are confirmed by the NERA report submitted by the Victorian distribution network service providers in Aurora's revised proposal submission. Handley's and NERA's updates of the geometric average over the periods 1883–2011 and 1958–

After considering strengths and weaknesses of each estimation period, the AER considers all five periods are relevant for the following reasons:

- Longer time series contain a greater number of observations, so produce a more statistically precise estimate.
- 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).³¹¹
- Shorter time series are more vulnerable to influence by the current stage of the business cycle or other (one-off) events.³¹²

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. If the one year historical excess returns are variable, then their arithmetic average 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.³¹³

The AER considers both the arithmetic and geometric averages are important to consider when estimating a 10 year forward looking MRP using historical annual excess returns. The Tribunal has found no error with this approach.³¹⁴ The best estimate of historical excess returns over a 10 year period is thus likely to be somewhere between the geometric average and the arithmetic average of annual excess returns. The AER considered SFG's, NERA's and Lally's views on arithmetic and geometric averages of historical excess returns in appendix B.

2011 differ by one basis point. The reason for this difference is unclear to the AER, but the difference appears immaterial. See NERA, *The market risk premium*, 20 February 2012, pp. 8–9.

³¹¹ In its submission to Aurora's revised proposal, NERA raised the issue that the market excess returns were less volatile before the 1950s. See: NERA, *Market risk premium*, 20 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 because it does not represent a forward looking MRP. Also, other evidence suggests the historical excess returns were too high before the 1950s. See: AER, *APTPL access arrangement draft decision*, April 2012, pp. 296297–7.

Further, the arithmetic averages 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 3.0 respectively. Accordingly, even if the AER were to rely on only the post 1958 data, it would not change its position on the appropriate value of the MRP.

³¹² 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*, 2008, vol. 48, pp. 78–82.

³¹³ Appendix B discusses the details.

³¹⁴ Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT4*, 11 January 2012, paragraph 157.

Bias in historical excess returns

In their December 2011 MRP report, McKenzie and Partington suggested MRP estimates based on historical data may be overstated relative to true expectations, as a result of survivorship bias.³¹⁵ According to Damodaran (2011), survivorship bias is created by estimating historical returns on only stocks that have survived.³¹⁶ Historical data excludes negative return stocks that no longer exist, which naturally results in higher return estimates. McKenzie and Partington³¹⁷ and Joye³¹⁸ supported this view. The AER notes this upward bias is a relevant consideration because the various Australian stock indexes exclude the failed stocks.³¹⁹ Other arguments also suggest the historical excess returns are upwardly biased. Siegel (1999) argued unanticipated inflation means historical returns underestimate real returns on risk free assets.³²⁰ He also argued historical returns on equity overstate returns actually realised, given historically high transaction costs and the historical lack of low cost opportunities for diversification.³²¹

Lally suggested historical excess returns may underestimate the forward looking 10 year MRP when an economy has entered a major recession. But he noted Australia has not recently entered a major recession and, even if it had, the downward bias is unlikely to be very large.³²² He also noted:

... the fact that the AER bases its estimate of the MRP at least partly upon historical averaging of excess returns does not invalidate its claim that it is estimating the MRP for the next ten years; this estimation methodology is suitable (in conjunction with other methodologies) for estimating the MRP for the next ten years as well as for estimating the long-term average MRP. The use of historical averaging results may introduce a downward bias at the present time, but the effect is likely to be small relative to the standard deviation in the estimate and to possible upward bias in the methodology arising from significant unanticipated inflation in the 20th century.³²³

The AER considers the bias is a relevant consideration when estimating the MRP using historical excess returns. Given that 6 per cent is towards the top of the historical excess returns range, the AER considers historical excess returns provide a conservative estimate of the MRP.

³¹⁵ McKenzie, M. and G. Partington, *Equity market risk premium*, 21 December 2011, pp. 6–7.

³¹⁶ Damodaran, A. *Equity risk premiums: determinants, estimation and implications—the 2012 edition*, Mach 2012, p. 24.

³¹⁷ M. McKenzie, and G. Partington, *Report to the AER: Review of regime switching framework and critique of survey evidence*, 27 August 2012, p. 19, (McKenzie and Partington, *MRP: regime switching framework and survey evidence*, August 2012)

³¹⁸ Joye, C., *Super funds miss mark in bias to equities*, Australian Financial Review, 14 August 2012.

³¹⁹ For example, the ASX All Ordinaries Index represents the 500 largest companies listed on the ASX. Market capitalisation is the only eligibility requirement. An underperforming stock that is losing its market share would be eventually be removed from the index. See: http://www.asx.com.au/products/capitalisation-indices.htm#all_ordinaries_index.

³²⁰ M. Lally, *The cost of equity and the market risk premium*, 25 July 2012., p. 8, (Lally, *Cost of equity and the MRP*, July 2012).

³²¹ McKenzie and Partington, *Equity market risk premium*, December 2011, p. 7

³²² Lally, *Cost of equity and the MRP*, July 2012, p. 24.

³²³ Lally, *Cost of equity and the MRP*, July 2012, p. 27.

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 (for example, 10 years), which means short term (for example, one year) market fluctuations have little relevance.
- The MRP is for a domestic CAPM, which means overseas evidence has limited relevance.

Table 4.29 shows decisions from Australian state and territory regulators dealing with electricity, gas, water, rail and postal services. It also includes decisions by the ACCC for various regulated sectors.

Table 4.29 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
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,³²⁴ ERA,³²⁵ ESC,³²⁶ QCA,³²⁷ IPART³²⁸, ESCOSA³²⁹.

The AER considers the decisions by other Australian regulators are relevant because the MRP is an economy wide measure. Recent 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 for Envestra's South Australian and Queensland gas distribution businesses. Envestra claimed the AER should have accepted Envestra's proposed 6.5 per cent MRP. The Tribunal concluded the AER has scope to determine an MRP that 'is reasonably open to it on the evidence':

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 a MRP of 6%.³³⁰

The Tribunal handed down a similar decision in its review of ATCO's (formerly WA Gas Network's) and DBNGP's access arrangements.³³¹ In both decisions, the ERA considered the

³²⁴ ACCC, *Australian Postal Corporation, 2010 Price Notification*, May 2010 p. 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, *Inquiry to make final access determinations for the declared fixed line services, Final Report*, 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, *Airservices Australia price notification, Final decision*, September 2011, p. 26, 29.

³²⁵ 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; ERAWA, *Final Decision, Access Arrangement Information for the Dampier to Bunbury Natural Gas Pipeline*, December 2011, p.159; ERAWA, *Draft Decision, Draft Decision on Proposed Revisions to the Access Arrangement for the Western Power Network*, March 2012, p 206.

³²⁶ ESCV, *Metro proposed access arrangement, Final decision, August 2011*, p. 85.

³²⁷ 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.

³²⁸ 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.

³²⁹ ESCOSA, *Final Advice, Advice on a Regulatory Rate of Return for SA Water – Final Advice*, February 2012, p. 50

³³⁰ Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 4*, 11 January 2012, paragraphs 145 and 148.

³³¹ Australian Competition Tribunal, *Application by WA Gas Networks Pty Ltd (No 3) ACompT 12*, 8 June 2012, paragraphs 105–8.

available information and exercised its discretion to determine the appropriate MRP. The Tribunal subsequently found no error in the ERA's determination of a 6.0 per cent MRP.

Survey evidence

In estimating the MRP, the AER is estimating investors' expectations of the MRP in the future, and not simply estimating the excess stock market returns achieved in the past. It considers surveys of market practitioners and academics are relevant because they reflect the forward looking MRP as applied. The AER is aware of Tribunal's comments on the survey evidence. Applying the criteria noted by the Tribunal to the survey evidence considered in this decision,³³² the AER concluded the survey results are relevant to inform the forward looking 10 year MRP.

Survey based evidence needs to be treated with caution because the results may be subject to limitations. The relevance of some survey results depends on how clearly the survey sets out the framework for MRP estimation. This framework includes the term over which the MRP is estimated and the treatment of imputation credits. Survey based estimates may be subjective, because market practitioners may look at different time horizons and have differing views on the market risk. However, this concern may be mitigated as the sample size increases. The AER also acknowledges the Tribunal's concern about survey evidence.³³³

The AER considered survey evidence before and after the WACC review. Survey evidence before the WACC decision includes the following:

- KPMG (2005) surveyed 33 independent expert reports on takeover valuations from January 2000 to June 2005. It found the MRP adopted in valuation reports was in a 6–8 per cent range. KPMG reported 76 per cent of survey respondents adopted an MRP of 6 per cent.³³⁴
- Capital Research (2006) found the average MRP adopted across a number of brokers was 5.09 per cent.³³⁵
- Truong, Partington and Peat (2008) surveyed chief financial officers, directors of finance, corporate finance managers or similar finance positions of 365 companies included in the All Ordinaries Index at August 2004. From the 87 responses received, 38 were relevant to the MRP. They found the MRP adopted by Australian firms in capital budgeting was in a 3–8 per cent range, with an average of 5.94 per cent. The most commonly adopted MRP was 6 per cent.³³⁶

Survey evidence after the WACC decision includes the following:

Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 161–3.

³³² Appendix B discusses this application in detail.

³³³ Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 159–63.

³³⁴ KPMG, *Cost of capital—market practice in relation to imputation credits*, August 2005, p. 15.

³³⁵ Capital Research, *Telstra's WACC for network ULLS and the ULLS and SSS businesses—review of reports by Prof. Bowman*, March 2006, p. 17.

³³⁶ Truong, G. Partington, G. and Peat, M., *Cost of capital estimation and capital budgeting practices in Australia*, Australian Journal of Management, June 2008, vol. 33, no. 1, p. 155.

- Bishop (2009) reviewed valuation reports prepared by 24 professional valuers from January 2003 to June 2008. It found the average MRP adopted was 6.3 per cent, and 75 per cent of these experts adopted an MRP of 6 per cent.³³⁷
- 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 the required MRP used by Australian academics in 2008 was in a 2.0–7.5 per cent range, with an average of 5.9 per cent.³³⁸
- Fernandez and Del Campo (2010) surveyed analysts around the world in April 2010. The survey received seven responses from Australian analysts and found the MRP that they used in 2010 was in a 4.1–6.0 per cent range, with an average of 5.4 per cent.³³⁹
- A further survey by Fernandez et al. (2011) in April 2011 reported the MRP used by 40 Australian respondents was in a 5–14 per cent range, with an average of 5.8 per cent.³⁴⁰
- Asher (2011) surveyed 2000 members of the Institute of Actuaries of Australia. Asher reported 33 of a total of 58 Australian analysts who responded to the survey expected the 10 year MRP to be 3–6 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.³⁴¹

Table 4.30 summarises the key findings of the surveys.

Table 4.30 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%

Sources: 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)).

³³⁷ Bishop, S., *A conservative and consistent approach to WACC estimation by valuers*, Value Advisor Associates, 2009.

³³⁸ 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.

³³⁹ Fernandez and Del Campo, *Market Risk Premium Used in 2010 by Analysts and Companies: A Survey with 2400 Answers*, IESE Business School, May 2010, p. 4.

³⁴⁰ 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.

³⁴¹ Asher, *Equity Risk Premium Survey—results and comments*, Actuary Australia, July 2011, no. 161, pp. 13–14.

The AER considers 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 reported MRP was 6 per cent.

McKenzie and Partington placed significant weight on the survey evidence due to the triangulation of that evidence.³⁴² 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), but that the type of bias would likely be much less consistent across surveys using different methods and different target populations.

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

4.3.4 Relationship between the risk free rate and the market risk premium

The AER is determining the rate of return for SP AusNet in the context of CGS yields being at an historical low. The AER and SP AusNet both adopted the Sharpe-Lintner CAPM as the accepted model for determining the cost of equity³⁴³. The effect of using this lower risk free rate within the Sharpe-Lintner CAPM, all things being equal, is to lower the cost of equity from that determined by the AER in previous decisions. In this context, SP AusNet proposed a long term historical average risk free rate.

The AER considered this interrelationship between the risk free rate and the market risk premium under the following four broad categories:

- the regulatory requirements under the NGR and NGL—specifically, whether it is appropriate in this framework for adjusting the MRP estimate to address or 'rectify' a perceived problem or difficulty in the calculation of the risk free rate
- the need for consistency in how the MRP and risk free rate are estimated
- the economic interdependencies between these two parameters—specifically, whether the MRP is high when the risk free rate is low
- other regulatory systems.

Regulatory requirements

The AER has consistently maintained that each parameter should be estimated based on considerations that meet the criteria and objective set out in Rule 87 of the NGR. A parameter should not be adjusted to address or rectify a perceived problem or difficulty with the calculation of another parameter. The AER understands Rule 87 operates as follows:

³⁴² McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 19; McKenzie and Partington, *MRP: regime switching framework and survey evidence*, August 2012, p. 28.

³⁴³ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 184 and 189,

- Rule 87(1) describes the objective in determining the WACC but does not guide 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 a well accepted financial model (such as the CAPM).
- Rule 87(1) informs the selection of appropriate input parameters to use 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 from providing reference services.

This interpretation is consistent with the Australian Competition Tribunal's position in two recent decisions, for ATCO (previously known as WA Gas Networks) and DBNGP.³⁴⁴

The AER uses the CAPM to estimate the cost of equity to determine the WACC under rule 87(2) of the NGR. The MRP, like the risk free rate, is an input to the calculation of the cost of equity for that WACC. Maintaining the integrity of each parameter promotes rigour and robustness in the estimation of each parameter. But addressing a problem with one parameter by adjusting another parameter introduces subjectivity. The AER is unaware of any well accepted method for making such adjustments without introducing subjectivity or greater regulatory risk³⁴⁵. Rather, the AER considered a range of evidence and determined the appropriate WACC input parameters when assessing the proposed rate of return. This approach is consistent with the objectives of the NGR.

Importantly, 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. Lally supported this view:

... 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).³⁴⁶

SP AusNet proposed a risk free rate above the prevailing rate, according to CEG's recommendation. Specifically, CEG recommended adopting a long term historical average risk free rate (5.99 per cent) with what it argued as a long term historical MRP of 6 per cent.

For reasons set out in this decision, the AER considers a 6 per cent MRP reflects prevailing conditions in the market for funds and also the risks from providing reference services. However, even if this was not the case, the AER considers (for the reasons outline above) adjusting the risk free rate to address a perceived problem with the MRP would not be appropriate. It does not accept this approach would be preferable to its current approach to setting parameters. Further, it considers the approach would not be consistent with r. 87 of the NGR, particularly in light of the Tribunal's construction of this rule in the ATCO and DBNGP matters.

³⁴⁴ 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.

³⁴⁵ S. 24 (5) of the NGL

³⁴⁶ Lally, *Cost of equity and the MRP*, July 2012, p. 22.

Consistency of the MRP and risk free rate estimates

SP AusNet suggested the WACC determined by the AER produces a 'downward biased return on equity' because the AER adopts an MRP that reflects the long term average and uses a risk free rate that reflects current market conditions.³⁴⁷ This suggested bias is a mischaracterisation. The AER estimates a WACC that is consistent with the CAPM and requirements of the rules.

The CAPM should be estimated at the beginning of the investment period and should reflect expectations for the investment horizon.³⁴⁸ Accordingly, both the risk free rate and the MRP are estimated at the beginning of the period (or rather, as close as is practically possible) and reflect expectations for the investment horizon.

Rule 87(1) of the NGR requires the AER to estimate a rate of return that reflects prevailing conditions in the market for funds. These prevailing conditions can be considered 'prevailing expectations' over the relevant forward looking investment horizon, which is 10 years.³⁴⁹ Accordingly, both the risk free rate and the MRP are forward looking estimates, although estimated using different types of data.

To satisfy these requirements in practice involves the use of differing methodologies and data sources. The risk free rate is not directly observable, but a proxy for the risk free rate is directly observable. A 10 year forward looking risk free rate can be estimated based on current market data (using 10 year CGS yields as the proxy).³⁵⁰ On the other hand, the MRP is unobservable and there are no reliable proxies for it that can be directly observed. Prevailing MRP estimates using current market data will not necessarily reflect forward looking expectations and are influenced by the assumptions used.³⁵¹ Accordingly, a broader set of evidence is needed to judge the MRP.

Long term historical average excess returns are one such source of evidence, and they are used on the basis that historical realised returns are likely to influence investors' expectations. The AER also considered forward looking evidence (such as survey evidence) in determining the appropriate estimate for the MRP. The use of judgement does not detract from the fact that the MRP is estimated as close as practical to the beginning of the period, and reflects expectations over the 10 year investment horizon.

Therefore, the AER does not use a short term estimate with a long term estimate. The AER uses estimates that reflect prevailing conditions and expectations over a 10 year investment horizon.

³⁴⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p.174

³⁴⁸ See section 4.3.1 for further discussion.

³⁴⁹ AER, *Final decision: WACC review*, May 2009, pp. 72–7.

³⁵⁰ CGS prices are observable in a market; as CGS have promised future cash flows, the prevailing yield reflects market expectations for the future. Discussed further in section 1.3.1 and Appendix B.

³⁵¹ Equity prices are observable in a market; but as equities do not have promised future cash flows, it is not possible to observe a yield that accurately reflects market expectations and takes into account future cash flows. See section 1.3.2 for further discussion.

Economic interdependencies

SP AusNet submitted the MRP and the risk free rate have a negative relationship.³⁵² Its contention was based on a CEG report. In turn, the AER considered three aspects of this issue: the theoretical argument, the empirical evidence and the CEG chart based on the AMP method.

Theoretical argument

The AER acknowledges a possible theoretical case for a negative relationship between the risk free rate and MRP in certain circumstances. But there is no sound basis for establishing any such theoretical relationship for the duration of the relevant investment horizon. That investment horizon is a 10 year forward looking period 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 conclusive.

Lally considered:

Although there is nothing in finance theory that supports (or rejects) a negative relationship between the CGS rate and the market risk premium, a negative relationship is plausible because the market risk premium is compensation for bearing equity risk, equity risk (volatility) seems to be greatest in depressed economic conditions, and the risk free rate also tends to be lowest in depressed economic conditions.³⁵³

However, Lally continued:

... whilst CGS yields are very 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.³⁵⁴

This consideration is pertinent to the AER's task because the AER is estimating a 10 year forward looking MRP. Accordingly, despite a possible tendency for the negative relationship over the short term, neither the theory nor the empirical evidence (see below) before the AER (including the material submitted by CEG) supports this relationship over longer periods.

³⁵² SP AusNet, *Access arrangement information*, March 2012, pp. 176-178

³⁵³ Lally, *Cost of equity and the MRP*, July 2012, p. 7.

³⁵⁴ Lally, *Cost of equity and the MRP*, July 2012, p. 7.

Empirical evidence

In response to a similar proposal submitted by Aurora, the AER's consultants, McKenzie and Partington, considered the available material. McKenzie and Partington noted some empirical evidence of a negative correlation between the short term nominal government bill yield (short term) and future nominal excess returns on the market. However, this negative correlation becomes weaker as the time horizon becomes longer. Further, the explanatory power of these regressions is low. Consequently, 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.³⁵⁵

Lally noted CEG did not present any persuasive evidence of a strong negative relationship between the 10 year forward looking risk free rate and the 10 year forward looking MRP:

- The Lettau and Ludvigson (2001) paper examined the US 30 day Treasury Bill rate rather than the 10 year rate. Further, this short term negative relationship reversed after two years.
- The Smithers and Co's advice was based on 'Siegel's constant'. Siegel's arguments are concerned with real rather than nominal returns. Even in real terms, Siegel did not suggest the MRP moves inversely with the risk free rate to the point that the cost of equity is largely unchanged.
- The rise in the expected rate of return on state government debt might have been due entirely to increases in expected default losses and liquid premium relative to CGS yield. In this case, the MRP would not increase with the debt risk premium.³⁵⁶

The AER considers the concerns raised by Lally are relevant because the AER is estimating a 10 year forward looking MRP, not a forward looking MRP over a short time horizon. Based on the advice from McKenzie and Partington, and Lally, the AER concludes the empirical evidence is not strong in support of a negative correlation between the risk free rate and the MRP. It also considers any such negative relationship would not warrant adjusting the MRP to compensate for the risk free rate. Further, recent literature suggests the relationship could be positive.³⁵⁷

CEG chart based on the AMP method

The AER examined the CEG chart (reproduced below), which is based on the AMP method. CEG derived this time series by first estimating the prevailing cost of equity (the red line) and then calculating the MRP (the green line) by subtracting the prevailing 10 year CGS yield at

³⁵⁵ McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p.10

³⁵⁶ Lally, *Cost of equity and the MRP*, July 2012, pp. 8-9.

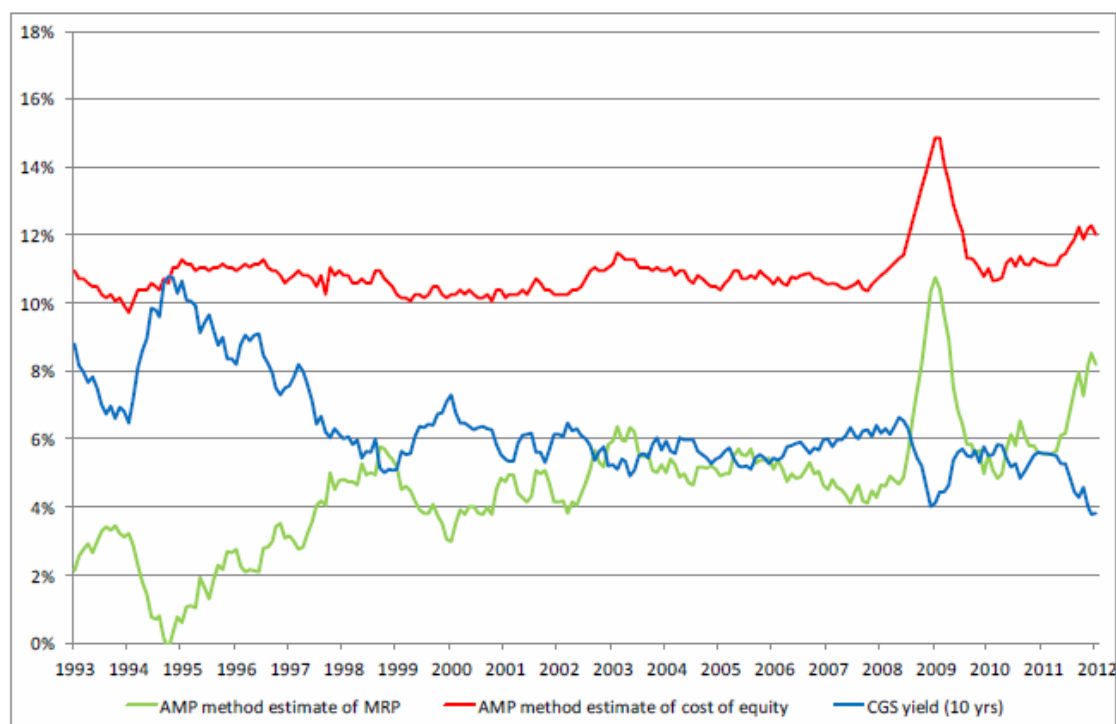
³⁵⁷ See Damodaran, *Equity risk premiums: determinants, estimation and implications—the 2012 edition*, March 2012, pp. 77–9.

any point in time (the blue line).³⁵⁸ The red line is relatively stable over time. Subtracting the blue line from the red line thus creates the appearance of a strong negative correlation between the risk free rate (green line) and MRP (blue line). Lally identified this problem. He found the CEG AMP method uses a perfect offset assumption³⁵⁹ and thus generates results showing a stable cost of equity over time.³⁶⁰ Lally described CEG's chart as being 'predisposed' to the result that it displays.³⁶¹ For these reasons, the AER considers this chart is not valid empirical evidence of a negative relationship between the prevailing market risk premium and the prevailing risk free rate. Additionally, because CEG's AMP method is based on the DGM model, that model's general limitations (outlined in section 4.3.3) also apply to this analysis.

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

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.³⁶²

Figure 4.1 CEG AMP method estimate of Return on Equity and MRP relative to 10 year CGS yields



³⁵⁸ CEG, *Internal consistency of risk free rate and MRP in the CAPM*. Prepared for Envestra, SP AusNet, Multinet and APA, March 2012, pp. 20–32 (CEG, *Risk free rate and MRP in the CAPM*, March 2012).

³⁵⁹ By applying the AMP method, CEG assumed the market cost of equity at any point in time is the same for all future years. If, for example, the current risk free rate were unusually low, then the MRP would assume to be unusually high by an exactly offsetting amount.

³⁶⁰ Lally, *Cost of equity and the MRP*, July 2012, pp. 9–12, 15.

³⁶¹ Lally, *Cost of equity and the MRP*, July 2012, p. 11.

³⁶² Lally, *Cost of equity and the MRP*, July 2012, p. 15.

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

Other regulatory systems

CEG suggested the AER should consider regulatory precedent outside Australia when it makes its decision under Rule 87 of the NGR. CEG stated that UK and the US regulators generally support adjusting the cost of equity when risk free rates are unusually low.³⁶³

The AER acknowledges 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. It considers these decisions are not comparable to those of the AER because they are made under a different legal framework. Under Rule 40 of the NGR, the AER can withhold its approval if it considers a preferable alternative exists that complies with the NGR and NGL requirements and criteria.³⁶⁴

The AER notes the risk free rate is low at the moment. However, it does not consider making an upward adjustment to the risk free rate is appropriate for the reasons set out in section 4.3.2. The AER notes DGM analysis is subject to a number of limitations when estimating a forward looking MRP. This is discussed in appendix B. In addition, Lally noted using DGM to directly estimate the cost of equity is subject to two further problems:

- The regulated business would have a very strong incentive to manipulate its dividend policy in order to maximise its regulatory return.
- This estimate does not accurately reflect the cost of equity of the regulated activity if the business also undertakes unregulated activity.³⁶⁵

The AER considers it is inappropriate to rely on DGM estimates or use long term historical risk free rate when the risk free rate is low. This is in accordance with our interpretation of the NGR. That is the AER is to determine the best estimate possible in the circumstances commensurate with prevailing conditions in the market for funds.

4.3.5 Equity beta

The equity beta provides a measure of the 'riskiness' of an asset's return compared with the return on the entire market. The equity beta reflects the exposure of the asset to systematic or 'non-diversifiable' risk, which is the only form of risk that requires compensation under the CAPM.

SP AusNet proposed an equity beta of 0.8, noting that it had been adopted by the AER in its most recent decision under the NGR for Envestra and that it is consistent with the statement of regulatory intent (SORI).³⁶⁶ The AER accepts SP AusNet's proposal for an equity beta of 0.8.

³⁶³ CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 33–40.

³⁶⁴ Rule 40 of the NGR sets out the AER's discretion in deciding on an access arrangement proposal. When the NGL and NGR do not state the AER has 'limited' discretion in relation to a decision, the AER can withhold its approval of an element of an access arrangement proposal under rule 40(3) of the NGR.

³⁶⁵ Lally, *Cost of equity and the MRP*, July 2012, p. 14.

³⁶⁶ SP AusNet, *Access arrangement information*, March 2012, p. 184.

The AER considers that the empirical evidence presented in the WACC review contains the best available estimate of the equity beta that would apply to a benchmark gas distribution network service provider, taking into account the need to reflect prevailing market conditions and the risks involved in providing reference services. This empirical evidence indicated a point estimate of between 0.4 and 0.7 for the equity beta of electricity and gas service providers.³⁶⁷ The adopting of an equity beta just above this range was in recognition of the level of imprecision around these estimates and the desirability of stability in regulatory decision making over time.³⁶⁸ Since the WACC review, the AER has adopted 0.8 in each of its regulatory decisions for other gas distribution and transmission service providers. Cross checks against Australian water utilities or overseas electricity and gas networks also indicate that the equity beta set by the AER is reasonable.

The Energy Users Coalition of Victoria (EUCV) submitted the equity beta for SP AusNet should be 0.65. The EUCV noted that:

- The empirical evidence undertaken during the WACC review implies a beta of 0.55.³⁶⁹
- The ESCV set the equity beta at 0.7 in March 2008 for gas distribution service providers, commenting after considerable investigation that the beta estimates using the longest period of data, range between 0.5 and 0.7.³⁷⁰
- Work undertaken by ERA that uses more recent data than that considered in the WACC review provides evidence for an equity beta of 0.65. The ERA suggests beta should be 0.65 in the draft decision for Western Power.

The EUCV considers that this evidence demonstrates that beta at 0.8 is too high.³⁷¹

The AER acknowledges that there is empirical evidence indicating that an equity beta less than 0.8 may be reasonable. However, during the WACC review the AER also took account of other considerations including regulatory stability and the level of imprecision in the empirical estimates. Having regard to this, the AER considers 0.8 to still be reasonable at this time. However, the estimates presented by the EUCV may, together with other information, provide additional evidence to change the equity beta in the future.

The AER has given consideration to other factors, such as the need to achieve an outcome that is consistent with the NGO—in particular, the need for efficient investment in natural gas services for the long-term interests of consumers of natural gas. The AER has also taken into account the revenue and pricing principles, the importance of regulatory stability and is also mindful it has recently considered an equity beta of 0.8 to be appropriate, if not overstated, for other gas businesses. On the basis of the information presented, the AER concludes that an

³⁶⁷ AER, *Final decision WACC Review*, May 2009, pp. 239–344

³⁶⁸ Most Australian regulators had previously provided electricity and gas service providers with an equity beta of either 0.9 or 1.0. In its last decision on the RBP, the ACCC adopted an equity beta of 1.0.

³⁶⁹ It is unclear how the EUCV has derived the 0.55 point estimate. The AER considers the empirical evidence from the WACC review suggested a range of 0.4–0.7.

³⁷⁰ The AER notes that ESCV effectively provided an equity beta of 0.8 by making an allowance in Total Revenue to reflect the difference in revenue from using an equity beta of 0.8 compared to an equity beta of 0.7. ESCV, *Gas access arrangement review 2008-2012 final decision – public version*, 7 March 2008, p. 13.

³⁷¹ EUCV, *Applications from Envestra, Multinet and SP AusNet, A response by EUCV*, June 2012, p. 57, 58.

equity beta of 0.8 provides SP AusNet with an opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.³⁷²

4.3.6 Debt risk premium

The AER accepts, in principle, SP AusNet's proposed benchmark and method for determining the DRP. The AER, however, has updated SP AusNet's proposed DRP to reflect the indicative averaging period used throughout this draft decision. This results in a DRP of 3.76 per cent.³⁷³ The AER will again update this value for its final decisions based on SP AusNet's final averaging period.

Specifically, the AER accepts SP AusNet's proposed DRP benchmark based on an Australian corporate fixed rate bond issuance with a term to maturity of 10 years and a BBB+ credit rating.³⁷⁴ This benchmark assumption has been adopted by the AER in previous gas decisions.³⁷⁵ Moreover, the AER considers that the term to maturity and credit rating are two primary factors which are reflective of the risks involved in providing reference services.³⁷⁶ The 10 year term for the cost of debt also provides internal consistency with the use of a 10 year risk free rate.

Further, the AER accepts SP AusNet's proposed approach to establishing the DRP. In particular, the AER accepts SP AusNet's proposal to estimate the benchmark DRP solely on the Bloomberg BBB fair value curve. Notwithstanding that the AER has previously expressed concern with the Bloomberg fair value curve, the AER is mindful of the Tribunal's recommendation that a public consultation process be completed before any alternative methodologies are considered.³⁷⁷

The AER also accepts SP AusNet's proposed method to extrapolate the Bloomberg BBB fair value curve from seven to 10 years based on the analysis of paired bonds undertaken by PwC.³⁷⁸ The AER, however, does not consider that this extrapolation approach has been correctly applied by PwC.

PwC's method extrapolates the Bloomberg seven year BBB fair value curve using the average annual increment observed across pairs of bonds of differing maturities issued by the same company. PwC's criteria for selecting the sample of paired bonds included that:

- the paired bonds were part of the wider sample used by PwC when conducting their broader econometric analysis

³⁷² NGL, s. 24(2).

³⁷³ This estimate also reflects the AER's amendment to the bond sample used to extrapolate Bloomberg's seven year, BBB rated fair value curve. This amendment is discussed in detail further in this document.

³⁷⁴ SP AusNet, *Access arrangement information*, 30 March 2012.

³⁷⁵ For example, see AER, *Final Decision: APT Petroleum Pipeline Pty Ltd access arrangement final decision Roma to Brisbane Pipeline 2012-13 to 2016-17*, August 2012.

³⁷⁶ Other factors—for example, industry type—may also be relevant in determining the level of risk involved in providing reference services.

³⁷⁷ 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.

³⁷⁸ This is because seven years is the maximum term currently published for the Bloomberg BBB fair value curve.

- the shorter dated bond (of the pair) has a remaining term to maturity closest to seven years.³⁷⁹

Based on PwC's selection criteria, the AER cannot reconcile the inclusion of the paired Telstra bonds in PwC's extrapolation sample. Specifically, Telstra bonds have a credit rating of 'A' by Standard and Poors. Amongst other characteristics, the broader econometric sample used by PwC (of which the paired bonds must be a subset) only included bonds with a credit rating of 'BBB', 'BBB+' or 'A-' by Standard and Poors.³⁸⁰

Additionally, PwC's extrapolation sample included a pair of fixed rate Stockland bonds maturing in 2015 and 2020. However, a fixed rate Stockland bond matching all of PwC's selection criteria exists which matures in 2016. The AER considers that the correct application of PwC's selection criteria requires the 2016 bond to be used (instead of that maturing in 2015).

For the purposes of this draft decision, therefore, the AER has excluded the Telstra bonds from the extrapolation sample. The AER has also updated PwC's analysis to reflect the spread between the pair of Stockland bonds maturing in 2016 and 2020. The AER, however, will consider including these bonds for the final decision should SP AusNet substantiate their inclusion. The AER considers that excluding the Telstra bonds and amending the Stockland pair is consistent with a benchmark DRP that reflects the risks involved in providing reference services.

In assessing SP AusNet's proposal, the AER has also taken into account the EUCV's submission.³⁸¹ The EUCV stated that the approach to determining the DRP used by the AER cannot be demonstrated to produce an efficient outcome. Further, the EUCV presented average debt premiums for each of the Victorian gas networks from the corresponding annual reports.

The AER, however, considers that the EUCV's analysis of annual report data is flawed. Most notably, it is unclear whether the average term of the debt referenced by the EUCV corresponds to the benchmark term adopted by the AER. In this context, it is inappropriate to calculate the DRP for an entire portfolio with reference only to the 10 year risk free rate.³⁸² This notwithstanding, the issues raised by the EUCV—for example, that the current DRP method does not reflect the full spectrum of debt options utilised by NSPs—warrant broader consideration. This is consistent with the Tribunal's recommendation to undertake a public consultation process before selecting an alternative DRP methodology.³⁸³ For these reasons, the AER has commenced an internal review into alternatives to the Bloomberg fair value

³⁷⁹ PwC, *SP AusNet, MultiNet Gas, Envestra, and APA Group: Estimating the benchmark debt risk premium*, March 2012, p. 22.

³⁸⁰ PwC, *SP AusNet, MultiNet Gas, Envestra, and APA Group: Estimating the benchmark debt risk premium*, March 2012, p. 13.

³⁸¹ Energy User's Coalition of Victoria, *Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012.

³⁸² For example, the DRP for seven year debt should be determined with reference to the seven year risk free rate.

³⁸³ 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.

curve. The AER will advise of a public consultation process on the development of an alternative in due course.

4.3.7 Forecast inflation

The AER approves SP AusNet's proposed methodology for estimating forecast inflation. SP AusNet's proposed methodology is consistent with that adopted by the AER in previous regulatory decisions.

SP AusNet used this methodology and derived an inflation forecast of 2.51 per cent. In this draft decision, the AER updates the RBA short term inflation forecasts resulting in an indicative inflation forecast of 2.50 per cent. This is shown in Table 4.31.

Table 4.31 AER inflation forecast (per cent)

	2013	2014	2015–2022	Geometric average
Forecast inflation	2.50 ^a	2.50 ^a	2.50	2.50

Source: RBA, Statement on Monetary Policy, August 2012, p. 67.

Notes: (a) The RBA published a range of 2-3 per cent for its 2013 and 2014 forecast inflation. The AER has selected the mid-point of 2.5 per cent for the purposes of this draft decision.

For the final decision, the AER will again update the RBA's short term inflation forecasts based on the most recent RBA Statement on Monetary Policy at the time of the final decision.

4.3.8 Gearing ratio

The gearing ratio is the ratio of the value of debt to total capital (that is, both debt and equity) and is used to weight the costs of debt and equity when formulating the overall rate of return. Under rule 87 of the NGR, the AER needs to determine the gearing ratio based on the assumption that the service provider meets the benchmark level of efficiency.

SP AusNet proposed a gearing ratio of 60:40 (that is, 60 per cent debt).³⁸⁴ The AER accepts this gearing ratio because it is supported by relevant available empirical evidence.³⁸⁵ Additionally, as the AER noted in its decision for ETSA SA, when determining this gearing ratio the AER included gas businesses as close comparators to the benchmark electricity business. The AER considers that this reasoning also holds in reverse—that is, electricity businesses are close comparators for the benchmark efficient gas business.³⁸⁶ For the reasons outlined in the AER's WACC review, the AER still considers that a gearing ratio of 60:40 will to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers.³⁸⁷

³⁸⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 186.

³⁸⁵ AER, *Final decision: WACC Review*, May 2009, p. 126.

³⁸⁶ AER, *Draft decision: Envestra Ltd Access arrangement proposal for the SA gas network 1 July 2011 – 30 June 2016*, February 2011, p. 93.

³⁸⁷ NGL, s23. AER, *Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, p. 116-126.

4.3.9 Reasonableness checks on overall rate of return

The AER considers 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.

The overall rate of return is unobservable, the AER assesses overall rate of return using market data and finance theory. Techniques available to assess the overall rate of return 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. The AER examined:

- assets sales
- trading multiples
- broker WACC estimates
- recent decisions by other regulators
- the relationship between the cost of equity and the cost of debt.

For this draft decision, the AER determines an overall rate of return using a nominal vanilla WACC of 7.16 per cent. This is based on a cost of equity of 7.78 per cent, a cost of debt of 6.74 per cent and a gearing level of 60 per cent. The cross checks listed above suggested the regulated rate of return is not unreasonable:

- Recent regulated assets have generally been sold at a premium to the RAB. In addition, Grant Samuel and brokers' reports identified recent RAB trading multiples are consistently greater than one (averaging around 1.2). This evidence provides the AER with a degree of confidence that its current approach in calculating the rate of return is reasonable.
- The overall rate of return does fall below the range of estimates found in broker reports (7.76-10.02 per cent). However, the AER notes broker WACC technique is subject to known limitations and inherent imprecision. Further, broker WACC estimates do not demonstrate the overall rate of return is unreasonable, given this is the only aspect of the reasonableness check that has indicated a potential concern.
- While the overall rate of return is lower than recent AER decisions, it is in line with recent regulatory decisions made by other Australian regulators (5.70-9.08 per cent).
- Consistent with previous decisions, the AER determined cost of equity is greater than the cost of debt for this draft decision.

Appendix B explores each overall rate of return reasonableness check technique in detail.

4.4 Revisions

The AER proposes the following revisions to make SP AusNet's access arrangement proposal acceptable:

Revision 4.1:

Make all necessary amendments to reflect the AER's draft decision on the rate of return on capital for the access arrangement period, as set out in Table 4.26 of this attachment.

5 Depreciation

When determining the total revenue for SP AusNet, the AER must decide on the depreciation for the projected capital base (or return of capital).³⁸⁸ Regulatory depreciation is used to model the nominal asset values over the 2013–17 access arrangement period and the depreciation allowance in the total revenue requirement. The AER's draft decision on SP AusNet's annual regulatory depreciation allowances is outlined in this attachment.³⁸⁹ The AER's consideration of specific matters that affect the estimate of regulatory depreciation over the 2013–17 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.

5.1 Draft decision

The AER approves SP AusNet's proposal to use the straight-line method to calculate the regulatory depreciation allowance as set out in the post-tax revenue model (PTRM). However, the AER does not approve SP AusNet's proposed regulatory depreciation allowance of \$147.8 million (\$nominal) for the 2013–17 access arrangement period. This is because of the AER's required adjustments for this draft decision. These include:

- the proposed depreciation approach
- the proposed standard economic lives and remaining economic lives as at 1 January 2013
- proposed depreciation calculation for existing assets in the opening capital base.

The AER does not approve SP AusNet's proposed depreciation approach. SP AusNet proposed to recover the difference between forecast and actual depreciation from 1998 to 2012 (unrecovered depreciation) over the 2013–17 access arrangement period. The AER considers that SP AusNet's proposed recovery does not meet the requirement of the NGR.³⁹⁰ To satisfy the NGR, the AER considers that the unrecovered depreciation should be recovered over the remaining economic life of the asset class to which the unrecovered depreciation relates.

With the exception of the 'Land & buildings' asset class, the AER approves SP AusNet's proposed standard economic lives assigned to each of its asset classes for the 2013–17 access arrangement period. This is because they are consistent with the Essential Services Commission's (ESC's) approved standard economic lives for the 2008–12 access arrangement period. Due to land being a non-depreciable asset, the AER considers that the 'Land & buildings' asset class should be split into separate asset classes and be assigned different standard economic lives.

³⁸⁸ NGR, r. 76(b).

³⁸⁹ Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

³⁹⁰ NGR, rr. 89(1)(c), 74(2)(a), 74(2)(b) and r. 77(2)(d); NGR, schedule 1, r. 5(1)(d).

The AER does not accept SP AusNet's proposed depreciation calculation for existing assets in the opening capital base. Due to several errors in its model, SP AusNet's proposed depreciation calculation for existing assets is not arrived at on a reasonable basis, and does not represent the best forecast or estimate possible in the circumstances as required by the NGR.³⁹¹ The AER requires SP AusNet to change its depreciation calculation to the AER's standard method for calculating depreciation for existing assets and to establish remaining economic lives for each of its asset classes as at 1 January 2013. This will minimise the risk of future errors. The AER has calculated SP AusNet's remaining economic lives as at 1 January 2013. These remaining economic lives reflect the AER's required change in the proposed depreciation approach and the required adjustment to SP AusNet's opening capital base roll forward (discussed in attachment 2).

The AER approves SP AusNet's proposed remaining economic life as at 1 January 1998 associated with low pressure mains for the 2013–17 access arrangement period. The AER considers that the proposed remaining economic life is consistent with the NGR which allows for changes in the expected economic life of an asset.³⁹² It is also consistent with the AER's draft decision on forecast capex (discussed in attachment 3).

The AER's draft decisions regarding other components of SP AusNet's proposal also affect the calculation of the regulatory depreciation allowance. These are discussed in other attachments and include:

- the projected opening capital base (attachment 2)
- forecast net capex (attachment 3)
- forecast inflation (attachment 4).

The AER's draft decision on SP AusNet's total regulatory depreciation allowance over the 2013–17 access arrangement period is \$125.5 million (\$nominal) as shown in table 5.32. This represents a reduction of \$22.3 million (\$nominal) or 15.1 per cent of SP AusNet's proposed total regulatory depreciation allowance.

Table 5.32 AER's draft decision on SP AusNet's depreciation allowance (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	48.4	54.6	60.9	66.0	71.3	301.1
Less: indexation on opening capital base	31.5	33.5	35.3	37.0	38.3	175.7
Regulatory depreciation	16.9	21.1	25.5	29.0	33.0	125.5

Source: AER analysis.

³⁹¹ NGR, rr. 74(2)(a) and 74(2)(b).

³⁹² NGR, r. 89(1)(c).

5.2 SP AusNet's proposal

SP AusNet proposed a forecast regulatory depreciation allowance of \$147.8 million (\$nominal) over the 2013–17 access arrangement period, as set out in table 5.33. To calculate the depreciation allowance, SP AusNet proposed:³⁹³

- to recover the difference between forecast and actual depreciation from 1998 to 2012 over the 2013–17 access arrangement period
- standard economic lives for depreciating new assets associated with forecast capex. SP AusNet did not propose any new asset classes for the 2013–17 access arrangement period³⁹⁴
- to account for the remaining economic lives for each year's capex within each asset class separately. Therefore, under this approach, SP AusNet did not propose any remaining economic lives for each asset class as at 1 January 2013 for depreciating existing assets in the opening capital base
- to reduce the remaining economic life of assets as at 1 January 1998 associated with low pressure mains (part of the 'Distribution pipelines' asset class) from 2013.

Table 5.33 SP AusNet's proposed depreciation allowance (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	59.9	65.8	64.7	69.0	71.9	331.3
Less: indexation on opening capital base	32.5	34.6	36.6	38.9	40.9	183.5
Regulatory depreciation	27.5	31.2	28.1	30.1	31.0	147.8

Source: SP AusNet, *Access arrangement information*, March 2012, p. 169.

5.3 Assessment approach

In its access arrangement proposal, SP AusNet must provide a forecast of depreciation for the 2013–17 access arrangement period, including a demonstration of how the forecast is derived on the basis of the proposed depreciation method.³⁹⁵ The depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff. The depreciation schedule may consist of a number of separate schedules, each relating to a particular asset or class of asset.³⁹⁶ In making a decision on the proposed depreciation schedule, the AER is to assess the compliance of the proposed depreciation schedule with the depreciation criteria set out in the

³⁹³ SP AusNet, *Access arrangement information*, March 2012, pp. 168–169.

³⁹⁴ However, the 'Mains & services' asset class has been disaggregated into four asset classes with the same standard economic lives of 60 years; and the 'Other' asset class has been disaggregated into two asset classes with the same standard economic lives of 5 years.

³⁹⁵ NGR, r. 72(1)(c)(ii).

³⁹⁶ NGR, rr. 88(1) and 88(2).

NGR.³⁹⁷ The AER must also take into account the depreciation schedule approved in the 2008–12 access arrangement period,³⁹⁸ the NGO and the revenue and pricing principles.³⁹⁹

The AER's discretion under the depreciation criteria is limited.⁴⁰⁰ The depreciation criteria state that the depreciation schedule should be designed:

- so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services⁴⁰¹
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets⁴⁰²
- so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets⁴⁰³
- so that (subject to the rules about capital redundancy), an asset is depreciated only once⁴⁰⁴
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs⁴⁰⁵

The depreciation criteria also state that to comply with the rule regarding efficient growth in the market for reference services, a substantial amount of depreciation may be deferred.⁴⁰⁶

Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base. The AER's PTRM employs the straight-line method for calculating depreciation and the regulatory depreciation allowance is an output of the PTRM.⁴⁰⁷ The AER considers that the straight-line method satisfies the depreciation criteria.⁴⁰⁸ This is because the straight-line method smooths changes in the reference tariffs, promotes efficient growth of the market, allows assets to be depreciated only once and over its economic life, and allows for a service provider's reasonable needs for cash flow.

³⁹⁷ NGR, r. 89.

³⁹⁸ NGR, schedule 1, r. 5(1)(d).

³⁹⁹ NGL, s 28; NGR r. 100(1). The NGO is set out in NGL, s. 23. The revenue and pricing principles are set out in NGL, s. 24.

⁴⁰⁰ NGR, rr. 89(3) and 40(2). The example provided in r. 40(2) states: The AER has limited discretion under r. 89. Rule 89 governs the design of a depreciation schedule. In dealing with a full access arrangement submitted for its approval, the AER cannot, in its draft decision, insist on change to an aspect of a depreciation schedule governed by r. 89 unless the AER considers the change is necessary to correct non-compliance with a provision of the Law or an inconsistency between the depreciation schedule and the applicable criteria. Even though the AER might consider change desirable to achieve more complete conformity between the depreciation schedule and the principles and objectives of the Law, it would not be entitled to give effect to that view in the decision making process.

⁴⁰¹ NGR, r. 89(1)(a).

⁴⁰² NGR, r. 89(1)(b).

⁴⁰³ NGR, r. 89(1)(c).

⁴⁰⁴ NGR, r. 89(1)(d).

⁴⁰⁵ NGR, r. 89(1)(e).

⁴⁰⁶ NGR, r. 89(2).

⁴⁰⁷ The AER's PTRM was developed based on the post-tax building block approach set out in the *National Electricity Rules*. Given that SP AusNet has proposed the post-tax building block approach for its access arrangement, the PTRM can be used to calculate the revenue requirement.

⁴⁰⁸ NGR, r. 89.

SP AusNet used the AER's PTRM to calculate its total revenue requirement over the 2013–17 access arrangement period. However, SP AusNet bypassed the AER's standard depreciation calculations built into the PTRM and applied its proposed depreciation calculation for existing assets in the opening capital base. SP AusNet also did not calculate any remaining economic lives as at 1 January 2013 for its asset classes using its proposed approach. For the reasons outlined in section 5.4.3, the AER has modified SP AusNet's modelling of depreciation for existing assets and changed it to using the AER's standard depreciation calculations. This also allows the AER to calculate SP AusNet's remaining economic lives as at 1 January 2013 for its asset classes.

In assessing SP AusNet's proposed regulatory depreciation allowance, the AER has analysed SP AusNet's proposed inputs to the PTRM for calculating depreciation. These inputs include:

- the opening capital base as at 1 January 2013
- the forecast net capex in the 2013–17 access arrangement period
- the forecast inflation rate for the 2013–17 access arrangement period
- the standard economic life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the 2013–17 access arrangement period
- the remaining economic life for each asset class⁴⁰⁹—used for calculating the depreciation of existing assets associated with the opening capital base as at 1 January 2013.

The AER's determinations affecting the first three inputs in the above list are discussed elsewhere: opening capital base (attachment 2), forecast net capex (attachment 3) and forecast inflation (attachment 4). The AER's decision on the required amendments to SP AusNet's proposed regulatory depreciation allowance reflects the AER's determinations on these building block components. The AER's assessment approach on the remaining two inputs in the above list is set out below.

In general, the AER considers that consistency in the standard economic life for each asset class across access arrangement periods will allow reference tariffs to vary smoothly over time. This will promote efficient growth in the market for reference services.⁴¹⁰ The AER's standard method for determining the remaining economic lives is the weighted average method.⁴¹¹ The weighted average method rolls forward the remaining economic life for an asset class from the beginning of the earlier access arrangement period. This approach reflects the mix of assets within that asset class, when they were acquired over that period (or if they were existing assets at the beginning), and the remaining value of those assets (used

⁴⁰⁹ SP AusNet did not propose any remaining economic lives as at 1 January 2013 for its asset classes. As discussed in section 5.4.3, the AER has modified SP AusNet's modelling of depreciation for existing assets and changed it to using the AER's standard method for calculating depreciation for existing assets. Accordingly, the AER has calculated SP AusNet's remaining economic lives as at 1 January 2013 for its asset classes.

⁴¹⁰ NGR, r. 89(1)(a).

⁴¹¹ The AER considers this depreciation method to be a generally superior approach. Its reasons were outlined in its decision on the RFM for electricity transmission network service providers. See AER, *Explanatory statement, Proposed amendment, Electricity transmission network service providers, Roll forward model*, August 2010, pp. 5–6.

as a weight) at the end of the period. The AER will assess the outcomes of other approaches against the outcomes of this standard approach.

5.4 Reasons for draft decision

The AER's draft decision on SP AusNet's regulatory depreciation allowance is \$125.5 million (\$nominal) over the 2013–17 access arrangement period.

The AER does not approve SP AusNet's proposed regulatory depreciation allowance of \$147.8 million (\$nominal) for the 2013–17 access arrangement period. This is mainly because SP AusNet's proposed recovery of the unrecovered depreciation over the 2013–17 access arrangement period does not satisfy the NGR.⁴¹²

The AER approves SP AusNet's proposed standard economic lives assigned to each of its asset classes for the 2013–17 access arrangement period (except for the 'Land & buildings' asset class). The AER does not approve SP AusNet's proposed depreciation calculation for existing assets in the opening capital base because it is not consistent with the NGR.⁴¹³ The AER's adjustment corrects the errors made in SP AusNet's depreciation calculations, and allows the remaining economic lives as at 1 January 2013 to be calculated in the PTRM for depreciating existing assets in the opening capital base.

The AER accepts SP AusNet's proposed reduction from 39 years to 27 years in the remaining economic life associated with low pressure mains to apply from the first year of the 2013–17 access arrangement period.

In addition, the AER has made changes to other building block components of SP AusNet's proposal that impact on the proposed regulatory depreciation allowance.

5.4.1 Change of depreciation approach

The AER does not accept SP AusNet's proposed depreciation approach. The AER considers that SP AusNet's adjustment for the unrecovered depreciation is not consistent with the NGR.⁴¹⁴ To satisfy the requirement of the NGR, the AER requires SP AusNet to change its depreciation approach.

Unrecovered depreciation

SP AusNet's proposed depreciation allowance includes an amount of \$8.9 million (\$nominal) for what it termed 'unrecovered depreciation'.⁴¹⁵ SP AusNet submitted that this amount represents the difference between historical actual depreciation and forecast depreciation allowed by the ESC over the course of the last 15 years (1998–2012).⁴¹⁶ SP AusNet proposed that the uncovered depreciation be added into its proposed depreciation allowance calculated for the 'Distribution pipelines' asset class over the 2013–17 access arrangement

⁴¹² NGR, rr. 89(1)(c), 74(2)(a), 74(2)(b) and r. 77(2)(d); NGR, schedule 1, r. 5(1)(d).

⁴¹³ NGR, rr. 74(2)(a) and 74(2)(b).

⁴¹⁴ NGR, rr. 89(1)(c), 74(2)(a), 74(2)(b) and r. 77(2)(d); NGR, schedule 1, r. 5(1)(d).

⁴¹⁵ SP AusNet, *Access arrangement information*, March 2012, p.169.

⁴¹⁶ SP AusNet, *Access arrangement information*, March 2012, p.169.

period.⁴¹⁷ SP AusNet noted that its proposed approach accords with the NGR⁴¹⁸ which states that the depreciation schedule should allow for the service provider's reasonable needs for cash flow.⁴¹⁹

In calculating the unrecovered depreciation, SP AusNet made several modelling errors. These include not deducting asset disposals from the capex amounts, and inputting asset disposal and capex amounts that are inconsistent with the capital base roll forward model (RFM). As a result of these errors, the AER considers that SP AusNet's proposed unrecovered depreciation calculation is not arrived at on a reasonable basis nor does it produce the best forecast or estimate possible in the circumstances as required by the NGR.⁴²⁰ After correcting these errors, the AER has calculated the unrecovered depreciation to be \$7.2 million (\$nominal). The AER considers that SP AusNet's proposed recovery of the shortfall between historical actual depreciation and forecast depreciation for the 1998–2012 period over the 2013–17 access arrangement period should be rejected. Instead, for the reasons discussed below, the AER considers the amount should be recovered over a much longer period of 54.1 years in order to satisfy the NGR.⁴²¹

The NGR requires the AER to apply the depreciation approach set out in the 2008–12 access arrangement for the purpose of determining the opening capital base at the start of the 2013–17 access arrangement. The NGR states that the depreciation allowance over an earlier access arrangement is to be calculated according to the provisions of that access arrangement governing the calculation of depreciation.⁴²² Moreover, the AER must take into account previous depreciation schedules approved in the transitional access arrangement.⁴²³

SP AusNet's opening capital base as at 1 January 2013 has been determined by rolling forward the capital base, adding for actual capex (net of any disposals, capital contributions or redundant assets), subtracting forecast allowed depreciation and adding an inflationary adjustment. SP AusNet, in conducting this roll forward, has recognised that it was bound by the forecast depreciation approach set out in the 2008–12 access arrangement.

If SP AusNet was allowed to recover its proposed unrecovered depreciation in the 2013–17 access arrangement period, it would effectively be undoing the way the capital base was rolled forward in the past. By the end of the 2013–17 access arrangement period it would be as if the capital base had always been depreciated based on actual, rather than forecast, capex. The AER considers that SP AusNet's proposal effectively circumvents the forecast depreciation approach set out in the previous access arrangements. Based on the NGR, the AER considers that SP AusNet's proposed use of actual depreciation is not consistent with the earlier access arrangements and therefore should be rejected.⁴²⁴

SP AusNet did not provide any reason as to why any difference between forecast and actual depreciation should be accounted for over five years of the 2013–17 access arrangement

⁴¹⁷ SP AusNet, *PTRM*, March 2012.

⁴¹⁸ NGR, r. 89(1)(e).

⁴¹⁹ SP AusNet, *Access arrangement information*, March 2012, p.169.

⁴²⁰ NGR, rr. 74(2)(a) and 74(2)(b).

⁴²¹ NGR, r. 89(1)(c).

⁴²² NGR, r. 77(2)(d).

⁴²³ NGR, schedule 1, r. 5(1)(d).

⁴²⁴ NGR, schedule 1, r. 5(1)(d); NGR, r. 77(2)(d).

period. In this regard, the AER considers SP AusNet's proposed recovery is not consistent with the NGR that requires the depreciation schedule allow for adjustments reflecting changes in the expected economic life of a particular asset.⁴²⁵ SP AusNet has not proposed to change the expected economic life for 'Distribution pipelines', the asset class to which the unrecovered depreciation has been applied. The (revised) \$7.2 million (\$nominal) is also a net amount that has been calculated over the last 15 years, yet SP AusNet is proposing this amount be returned over the next five years. The AER does not consider that the proposed unrecovered depreciation reflects any changes in the standard economic life of the 'Distribution pipelines' asset class. The AER considers a much longer life of 54.1 years would be more appropriate, based on a weighted average life of the 'Distribution pipelines' capex to which the unrecovered depreciation relates.

Further, the AER considers that SP AusNet's proposal to recover the unrecovered depreciation over five years of the 2013–17 access arrangement period is at odds with its proposed forecast depreciation approach for the roll forward of the capital base to 1 January 2018. For the 2018–22 access arrangement period, SP AusNet has proposed that the roll forward of the capital base over the 2013–17 access arrangement period be based on the approved forecast depreciation approach.⁴²⁶ The AER has accepted this proposal (this is discussed in attachment 2).

The AER does not agree that SP AusNet's proposed recovery of unrecovered depreciation is supported by the NGR regarding the service provider's reasonable cash flow needs.⁴²⁷ SP AusNet has not provided any reasoning on how its proposed recovery would allow for its reasonable cash flow needs. The NGR refers to recovery of financing, non-capital and other costs.⁴²⁸ These costs are already covered by the building block components. The AER has also determined that the proposed recovery is not material (at less than one per cent of the proposed total revenues over the 2013–17 access arrangement period). Accordingly, this does not appear to be a matter of reasonable cash flow needs. While the impact on revenues is not material, the AER considers that SP AusNet's proposed approach does not satisfy the NGR (discussed above)⁴²⁹ and this should be the primary consideration.

Based on the above considerations, the AER concludes that the unrecovered depreciation be recovered over 54.1 years, rather than the 5 years proposed by SP AusNet. However, this issue becomes irrelevant if depreciation is modelled using the AER's standard approach as discussed below. This is because the unrecovered depreciation amount would be picked up in the opening values of the capital base as at 1 January 2013 and would be depreciated over the remaining economic lives of the relevant asset classes.

5.4.2 Standard economic lives

With the exception of the 'Land & Buildings' asset class, the AER approves SP AusNet's proposed standard economic lives assigned to each of its asset classes for the 2013–17 access arrangement period. The AER considers that these proposed standard economic lives

⁴²⁵ NGR, r. 89(1)(c).

⁴²⁶ SP AusNet, *Gas Access Arrangement Revision - Part B Reference Tariffs and Reference Tariff Policy*, March 2012, cl. 7.2(a)(2).

⁴²⁷ NGR, r. 89(1)(e).

⁴²⁸ NGR, r. 89(1)(e).

⁴²⁹ NGR, rr. 89(1)(c), 74(2)(a), 74(2)(b) and r. 77(2)(d); NGR, schedule 1, r. 5(1)(d).

are consistent with the ESC's approved standard economic lives for the 2008–12 access arrangement period.⁴³⁰ SP AusNet did not propose any new asset classes for the 2013–17 access arrangement period.⁴³¹

The AER considers that the 'Land & buildings' asset class should not be maintained as a single asset class in the opening capital base as at 1 January 2013 for depreciation purposes. However, consistent with the ESC's decision for rolling forward the capital base to 2012, the AER approves SP AusNet's proposal to maintain the single 'Land & buildings' asset class up to the closing capital base for 2012. From 2013, due to land being a non-depreciable asset, the AER considers that the 'Land & buildings' asset class should then be split into two separate 'Land' and 'Buildings' asset classes. Neither SP AusNet nor the AER has sufficient information to accurately allocate the residual asset value from 2013. However, SP AusNet has submitted that it considers its current land holdings to be immaterial. On this basis, the AER has allocated all of the residual value into the 'Buildings' asset class so it can continue to depreciate.

In recent decisions, the AER has consistently separated land from other asset classes, and not assigned a standard economic life to land (assigned a term of 'n/a' for modelling purposes) in the capital base roll forward model (RFM) and the PTRM.⁴³² According to the Australian accounting standards, land is generally not depreciable because land values tend to increase over time due to the limited supply of, and the increasing demand for, land.⁴³³ The *Income Tax Assessment Act* (ITAA) 1997 excludes land from the definition of a 'depreciating asset'.⁴³⁴

The AER sent an information request to SP AusNet to inquire about a possible split between 'Land' and 'Buildings' in the opening asset value as at 1 January 2013.⁴³⁵ In response, SP AusNet stated that it did not have enough information that would allow a separation of land from the opening asset value of the 'Land & buildings' asset class.⁴³⁶ It submitted:

SP AusNet's RAB was established as part of the privatisation process, with the existing asset category 'land & buildings' in its current aggregated form. No information was provided at the time that allowed a split between land and buildings either in documentation or models from that period. Subsequently, there has been no capital expenditure on land since privatisation.

Therefore, SP AusNet cannot identify what proportion of 'land & buildings' value is land.

SP AusNet does not consider current land holdings are likely to be material, reasoning that probably drove the initial aggregation at privatisation. Nonetheless, SP AusNet

⁴³⁰ ESC, *SP AusNet GAAR 2008 Revenue Model Further Final Decision*, 2008. These standard economic lives are also comparable with the range of standard economic lives approved in the AER's recent access arrangement decisions.

⁴³¹ However, the 'Mains & services' asset class has been disaggregated into four asset classes with the same standard economic lives of 60 years; and the 'Other' asset class has been disaggregated into two asset classes with the same standard economic lives of 5 years.

⁴³² AER, *Roma to Brisbane Pipeline draft decision*, April 2012, p. 19; AER, *Aurora Energy draft distribution determination*, November 2011, p. 205.

⁴³³ Australian Accounting Standard Board, *Accounting standard AASB1021: Depreciation, August 1997*, pp. 10–11.

⁴³⁴ ITAA 1997, s. 40-30.

⁴³⁵ AER, *Information request for SP AusNet relating to PTRM inputs ('Land & buildings')*, 21 June 2012.

⁴³⁶ SP AusNet, *Response to AER information request for SP AusNet relating to PTRM inputs ('Land & buildings')*, 25 June 2012.

agrees that going forward it would be appropriate to assign any new land purchases to a new asset class 'Land' and treat it as a non-depreciating asset.

Based on SP AusNet's response, the AER considers that it is reasonable for SP AusNet to maintain 'Land & buildings' as a single asset class to roll forward the capital base until 2012. This is consistent with the ESC's decision for the 2008–12 access arrangement period. However, the AER agrees that separate asset classes should apply for the opening capital base as at 1 January 2013 and for any future capex due to the different depreciation treatment applicable to land and buildings.

Although SP AusNet did not forecast any capex for the 'Land & buildings' asset class, the AER has split this asset class into two separate asset classes of 'Land' and 'Buildings'. The AER considers that:

- the 'Buildings' asset class should be assigned a standard economic life of 40 years. This is consistent with the standard economic life approved by the ESC for the 2008–12 access arrangement period.⁴³⁷ It is also consistent with the range of standard economic lives for the 'Buildings' asset class approved by the AER in its previous decisions⁴³⁸
- the 'Land' asset class should not be assigned a standard economic life reflecting the non-depreciating nature of the asset ('n/a' is assigned for modelling purposes in SP AusNet's PTRM).

The AER's draft decision on SP AusNet's standard economic lives for each of its asset classes for the 2013–17 access arrangement period is set out in table 5.34.

5.4.3 Remaining economic lives

The AER accepts SP AusNet's proposed reduction in the remaining economic life as at 1 January 1998 associated with low pressure mains to apply from the first year of the 2013–17 access arrangement period. The AER considers that the reduced remaining economic life is consistent with the NGR.⁴³⁹ It is also consistent with the AER's draft decision on forecast capex.

The AER does not accept SP AusNet's proposed depreciation calculation for existing assets in the opening capital base because it is not consistent with the NGR.⁴⁴⁰ The AER requires SP AusNet to change its depreciation calculation to the AER's standard method for calculating depreciation for existing assets, and to calculate remaining economic lives as at 1 January 2013 for each of its asset classes.

Low pressure mains

SP AusNet proposed to reduce the remaining economic life of assets as at 1 January 1998 associated with low pressure mains to apply from the first year of the 2013–17 access arrangement period.⁴⁴¹ This remaining economic life depreciates the opening asset value of

⁴³⁷ ESC, *SP AusNet GAAR 2008 Revenue Model Further Final Decision*, 2008.

⁴³⁸ AER, *N.T. Gas draft decision*, April 2011, p. 56; AER, *Energex and Ergon draft decision*, November 2009, pp. 223, 225; AER, *ETSA Utilities draft decision*, November 2009, p. 284.

⁴³⁹ NGR, r. 89(1)(c).

⁴⁴⁰ NGR, rr. 74(2)(a) and 74(2)(b).

⁴⁴¹ SP AusNet, *PTRM*, March 2012.

low pressure mains as at 1 January 1998. The AER approves SP AusNet's proposal to reduce this remaining economic life from 39 years to 27 years to apply from 2013 onwards. The AER considers that the shortening of the remaining economic life as at 1 January 1998 associated with low pressure mains is consistent with the AER's draft decision on SP AusNet's proposed replacement capex (discussed in attachment 3).

The low pressure mains, along with other mains (medium pressure and high pressure mains) make up the 'Distribution pipelines' asset class. Since the earlier access arrangements, SP AusNet has put in place capex projects to gradually replace low pressure mains with high pressure mains. SP AusNet stated that moving to a high pressure gas network will allow it to improve network safety and reliability by reducing the incidence of leaks.⁴⁴² For the 2013–17 access arrangement, SP AusNet also proposed capex to replace low pressure mains with high pressure mains.

Consistent with the AER's draft decision on SP AusNet's proposed forecast replacement capex, the AER considers that the proposed reduction in the remaining economic life as at 1 January 1998 associated with the low pressure mains is appropriate. The AER considers that the proposed remaining economic life is consistent with the NGR,⁴⁴³ which requires that the depreciation schedule allow for adjustments reflecting changes in the expected economic life of a particular asset. The AER has modelled the price impact of reducing the remaining economic life as at 1 January 1998 associated with low pressure mains in the 2013–17 access arrangement period. The AER considers the price impact from this change to be immaterial (at less than one per cent increase in revenue over the 2013–17 access arrangement period).

In accepting SP AusNet's proposed remaining economic life as at 1 January 1998 associated with low pressure mains, the AER has used it to calculate the remaining economic life as at 1 January 2013 for the 'Distribution pipelines' asset class. This is done by using the 'average depreciation' approach discussed below.

Modelling of remaining economic lives

SP AusNet used the AER's PTRM to calculate depreciation of forecast capex in the 2013–17 access arrangement period. However, SP AusNet bypassed the standard method in the PTRM for calculating depreciation for existing assets in the opening capital base. Instead, SP AusNet applied an alternative approach to depreciate each year's capex spend individually since 1998. As such, there is no remaining economic life for each asset class in SP AusNet's model as at 1 January 2013. Rather, there are many individual remaining economic lives associated with capex for each regulatory year in the past.

The AER has identified a number of errors in the way SP AusNet calculated depreciation for existing assets. These include the unrecovered depreciation issue discussed in section 5.4.1; consistency issues in individual numbers between the RFM and PTRM; not deducting disposals for the depreciation calculations; and not allowing for the potential for negative net capex. Most of these errors would be overcome by adopting the AER's standard approach to depreciation set out in the PTRM. As a result of these errors, the AER considers that SP AusNet's proposed depreciation calculation for existing assets is not arrived at on a

⁴⁴² SP AusNet, *Access arrangement information*, March 2012, p. 103.

⁴⁴³ NGR, r. 89(1)(c).

reasonable basis nor does it produce the best forecast or estimate possible in the circumstances as required by the NGR.⁴⁴⁴ Therefore, the AER requires SP AusNet to change its depreciation calculation to the AER's standard method for calculating depreciation for existing assets.

Under the standard method in the AER's PTRM, remaining economic lives for each asset class as at 1 January 2013 are needed to calculate the depreciation for existing assets. The AER has therefore calculated the remaining economic lives for each asset as at 1 January 2013. These remaining economic lives were calculated by dividing the closing asset class values of the capital base as at 31 December 2012 by the average depreciation of these assets for the 2013–17 access arrangement period. This 'average depreciation' approach gives remaining economic lives that deliver the same forecast depreciation allowance as proposed by SP AusNet (subject to certain error corrections discussed above) for the 2013–17 access arrangement period.⁴⁴⁵ The calculation of these remaining economic lives also has the benefit of allowing comparison of SP AusNet's remaining economic lives with those of other distribution businesses.

The AER's draft decision on SP AusNet's remaining economic lives for each of its asset classes for the 2013–17 access arrangement period is set out in table 5.34.

Table 5.34 AER's draft decision on SP AusNet's standard and remaining economic lives as at 1 January 2013 (years)

Asset classes	Standard economic life	Remaining economic life
Transmission pipelines	60	24.2
Distribution pipelines ^a	60	32.0
Service pipes	60	35.6
Cathodic protection	60	26.5
Supply regulators/Valve stations	50	33.2
Meters	20	11.2
SCADA and remote control	15	11.7
Land	n/a	n/a
Buildings	40	25.0
Other - IT	5	5.0
Other - non IT	5	5.0

Source: AER analysis.

n/a Not applicable.

⁴⁴⁴ NGR, rr. 74(2)(a) and 74(2)(b).

⁴⁴⁵ At the next review, SP AusNet could apply the AER's standard weighted average remaining economic lives calculation to roll forward to 1 January 2018, given the remaining economic lives as at 1 January 2013 having now been established.

- (a) In calculating the remaining economic life for the 'Distribution pipeline' asset class, the AER has used SP AusNet's proposed remaining economic life as at 1 January 1998 associated with low pressure mains.⁴⁴⁶

5.5 Revisions

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

Revision 5.1: Make all necessary amendments to reflect the AER's draft decision on the proposed forecast regulatory depreciation allowance for the access arrangement period, as set out in table 5.32.

Revision 5.2: Make all necessary amendments to reflect the AER's draft decision on the proposed depreciation method, as set out in section 5.4.1.

Revision 5.3: Make all necessary amendments to reflect the AER's draft decision on the proposed depreciation calculation for existing assets, as set out in section 5.4.3.

Revision 5.4: Make all necessary amendments to reflect the AER's draft decision on the standard economic lives and the remaining economic lives as at 1 January 2013, as set out in table 5.34.

⁴⁴⁶ The AER has used the reduced remaining economic life as at 1 January 1998 associated with low pressure mains to calculate the depreciation for low pressure mains for the 2013–17 access arrangement period. This depreciation amount is then added together with the depreciation amount calculated for other mains over the 2013–17 access arrangement period. The total depreciation amount is averaged over five years to arrive at the average depreciation amount for the 'Distribution pipelines' asset class. The AER then calculates the remaining life for the 'Distribution pipelines' asset class by dividing the closing asset values as at 31 December 2012 by the average depreciation amount.

6 Operating expenditure

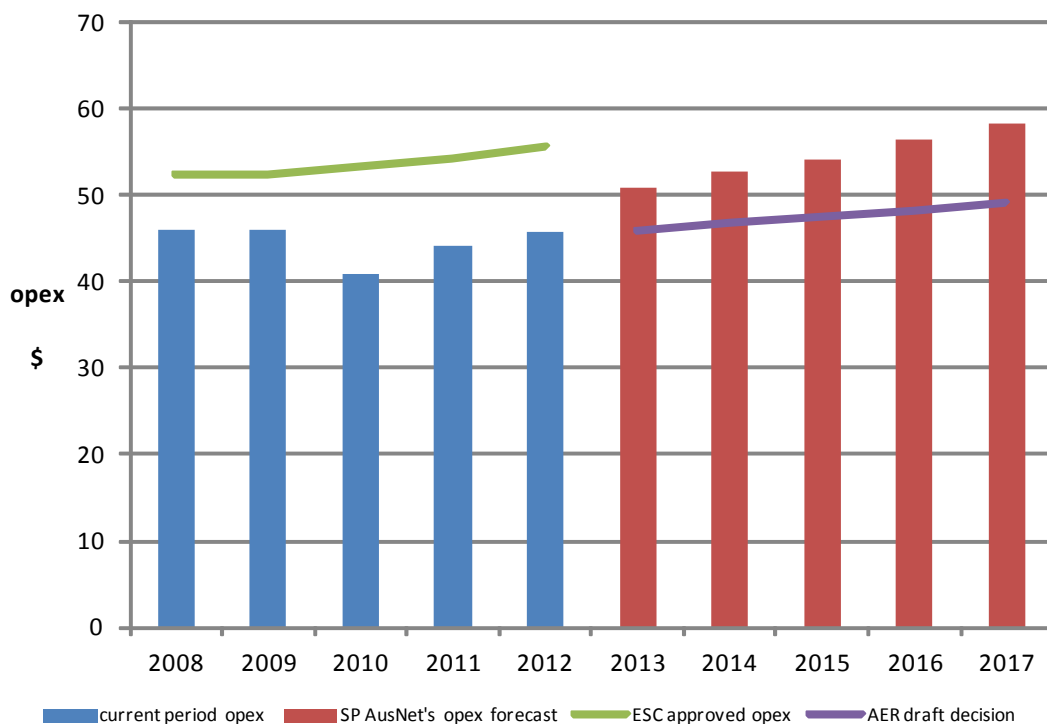
6.1 Draft decision

The AER's draft decision is to not approve a forecast of opex of \$272.6 million (\$2012) for the 2013–17 access arrangement period for SP AusNet. The AER is not satisfied that SP AusNet's forecast of opex for the 2013–17 access arrangement period reflects opex that complies with the opex criteria and the criteria for forecasts and estimates.⁴⁴⁷

The AER instead considers forecast opex of \$237.5 million (\$2012) reflects a forecast of opex that complies with the criteria governing opex and the criteria for forecasts and estimates.⁴⁴⁸

Figure 6.1 shows how the AER's draft decision for opex compares to SP AusNet's proposal, its opex in the 2008–12 access arrangement period, and the opex approved by the Essential Services Commission (ESC) for this period. During the current access arrangement period, SP AusNet's actual opex has been on average 16.8 per cent lower than the ESC approved opex.

Figure 6.1 Comparison of SP AusNet's historical and forecast opex, and AER draft decision (\$m, \$2012)



Source: SP AusNet's RIN submission. Note that figures from 2011 onwards are forecasts.

⁴⁴⁷ NGR, r. 91, r. 74.

⁴⁴⁸ NGR, r. 91, r. 71.

Table 6.35 compares the AER's draft decision to SP AusNet's proposal for each year of the 2013–17 access arrangement period.

Table 6.35 Comparison of SP AusNet's proposal, and AER draft decision (\$million, 2012)

	2013	2014	2015	2016	2017	Total
SP AusNet's proposal	50.8	52.7	54.3	56.4	58.4	272.6
AER's draft decision	45.9	46.9	47.5	48.2	49.0	237.5
Difference	-4.9	-5.8	-6.8	-8.2	-9.4	-35.0

Source: AER analysis.

6.2 SP AusNet's proposal

6.2.1 Total opex

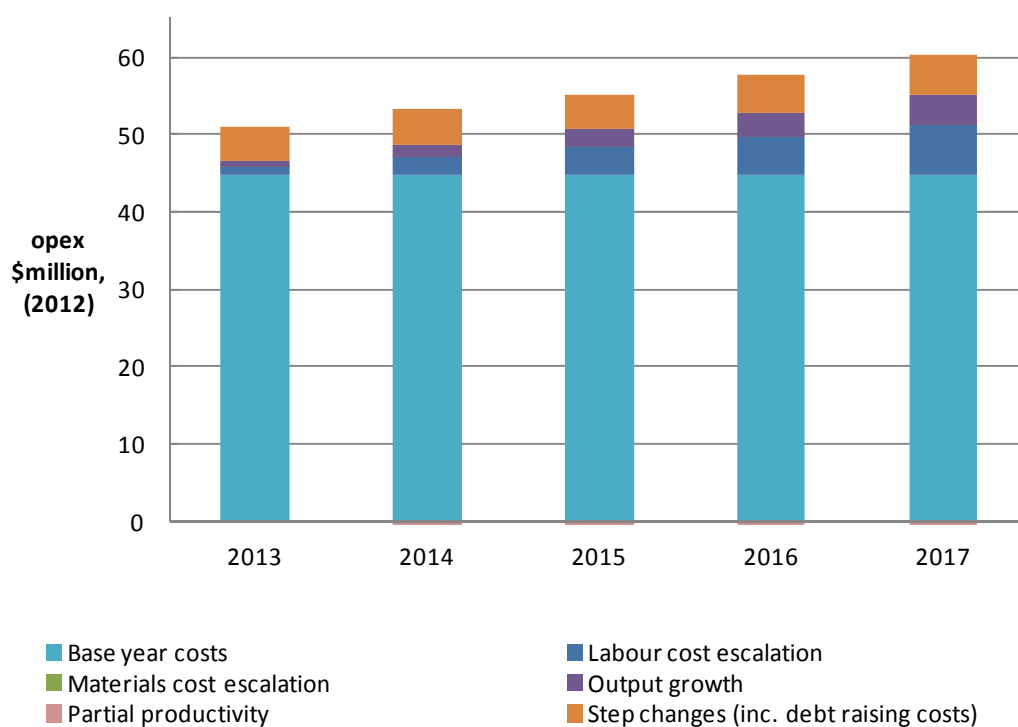
SP AusNet proposed total opex of \$272.6 million (\$2012) for the 2013–17 access arrangement period, a 22 per cent real increase on actual expenditure in the 2008–12 access arrangement period.⁴⁴⁹

Figure 6.2 disaggregates SP AusNet's proposals into six different cost categories:

- base year costs
- labour cost escalation
- materials cost escalation
- network growth
- partial productivity
- step changes

⁴⁴⁹ SP AusNet, *Access arrangement information*, 30 March 2012, table 6-1 and AER analysis.

Figure 6.2 Disaggregation of SP AusNet's proposal (\$m, \$2012)



Source: SP AusNet's RIN submission.

6.2.2 Forecasting methodology

SP AusNet forecast opex using a base year roll forward method.⁴⁵⁰ The base year roll forward method uses actual expenditure in a base year as an indication of future operating costs because operating costs are largely recurrent. This base year opex is then adjusted to account for changes in the firm's circumstances that will change operating costs over the forecast period. These adjustments include:

- removing non-recurrent costs from actual expenditure in the base year;
- projecting the base year opex forward using a rate of change formula. The formula states that the change in operating expenditure in real terms is a function of:
 - the forecast real increase in input prices (labour and materials); minus
 - the expected productivity improvement; plus
 - the expected increase in output.
- adding step changes for efficient costs not reflected in the base opex, such as costs due to changes in regulatory obligations and the external operating environment;
- adding other adjustments to the base year.

⁴⁵⁰ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 135–6.

6.2.3 Base year

SP AusNet chose 2011 as the opex base year, being the most recent full financial year for which actual data will be available.⁴⁵¹ SP AusNet has proposed actual base year opex of \$44.8 million (\$2012).⁴⁵² SP AusNet proposed to adjust its base year expenditure for non-recurrent opex items (table 6.36).⁴⁵³

Table 6.36 Base year adjustments proposed by SP AusNet (\$m,\$2012)

	SP AusNet Proposed
Unadjusted 2011 opex	44.8
Normalisation of maintenance costs	1.2
Removal of non-reference services costs	-1.6
SPIMS actuarial adjustment	-0.3
Returning UAFG to benchmark cost level	-0.9
Movement in provisions	0.0
Expected escalation of base year costs in 2012	1.5
Expected opex in 2012	44.7

Source: SP AusNet's, access arrangement proposal.⁴⁵⁴

6.2.4 Rate of Change increase in Opex

Real cost escalation

SP AusNet escalated its opex for expected real cost increases using labour cost increases forecast by BIS Shrapnel and materials cost increases forecast by SKM.⁴⁵⁵ SP AusNet escalated its internal labour costs using BIS Shrapnel's forecast increases in average weekly ordinary time earnings for the Victorian electricity, gas and water sector. It escalated contract labour by forecast increases in the Victorian construction sector. Proposed real labour cost increases account for 6.8 per cent of total opex for the 2013–17 access arrangement period.⁴⁵⁶

SP AusNet adjusted its labour cost escalation factors for productivity improvements. SP AusNet forecast productivity gains using industry level data. SP AusNet stated that it delivered significant productivity improvements over the 2008–12 and 2003–07 access arrangement periods and the pace of productivity growth cannot be maintained. It expects productivity gains to be significantly lower in the 2013–17 access arrangement period.⁴⁵⁷

⁴⁵¹ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 136–9.

⁴⁵² SP AusNet, *Access arrangement information*, 30 March 2012, p. 144.

⁴⁵³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 139.

⁴⁵⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 144.

⁴⁵⁵ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 146–8.

⁴⁵⁶ AER analysis of SP AusNet's opex model.

⁴⁵⁷ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 148–9.

SP AusNet forecast productivity growth for the 2013–17 access arrangement period will reduce total opex by 1.9 per cent.⁴⁵⁸

For its operating costs, SP AusNet escalated the materials component by CPI only. For its maintenance costs SP AusNet escalated the materials component by SKM forecasts of network materials price increases. Proposed real materials cost increases account for 0.1 per cent of total opex for the 2013–17 access arrangement period.⁴⁵⁹

Productivity improvements

SP AusNet proposed forecasts of productivity gains developed by Economic Insights. Economic Insights used industry level data to model productivity growth in gas networks. The model was then applied to SP AusNet's specific forecasts of inputs, outputs and environmental characteristics. Economic Insights forecast that SP AusNet can be expected to achieve productivity improvements averaging 0.8 per cent per annum over the 2013–17 access arrangement period (table 6.41).⁴⁶⁰

Network growth

SP AusNet escalated opex for the impact of network growth using a composite forecast growth in customer numbers and energy throughput. The AER predicts that forecast network growth will account for 4.2 per cent of SP AusNet's total opex for the 2013–17 access arrangement period.⁴⁶¹

6.2.5 Step changes

SP AusNet proposed step changes totalling \$12.2 million (\$2012) over the 2013–17 access arrangement period (table 6.37). Costs related to implementation of the National Energy Customer Framework (NECF) are identified by SP AusNet as the largest forecast step change. Once the NECF is implemented, SP AusNet will incur costs related to its new responsibilities under the framework. The details of the step changes are discussed in section 6.5.4.

Table 6.37 Proposed step changes for SP AusNet (\$m, \$2012)

	2013	2014	2015	2016	2017	Total
Survey of gas mains and services in drains	0.2	0.2	0.2	0.2	0.2	1.1
Changes to heater management	0.1	0.1	0.1	0.1	0.1	0.3
Operation fees on CTMs	0.0	0.1	0.2	0.3	0.3	0.9
Magnetic tomography inspections	0.1	0.1	0.1	0.1	0.1	0.4
Pipe saddle support repairs	0.1	0.0	0.1	0.0	0.1	0.3
NECF related costs	1.6	1.6	1.6	1.6	1.6	8.0

⁴⁵⁸ AER analysis of SP AusNet's opex model.

⁴⁵⁹ AER analysis of SP AusNet's opex model.

⁴⁶⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 148.

⁴⁶¹ AER analysis of SP AusNet's opex model.

Carbon tax administration	0.2	0.2	0.2	0.2	0.3	1.2
Total	2.3	2.3	2.5	2.5	2.7	12.2

Source: SP AusNet's Access arrangement proposal.⁴⁶²

6.2.6 Other adjustments to forecast opex

SP AusNet also forecasts additional opex for the 2013–17 access arrangement period that are not included in its business as usual opex. These expenditure items were set to zero in the base year for the purposes of forecasting, and need to be added to the base year opex to determine the total opex forecast for the 2013–17 access arrangement period.⁴⁶³

Table 6.38 Other adjustments to forecast opex for SP AusNet (\$m, \$2012)

	2013	2014	2015	2016	2017	Total
Reallocation of SPIMS and overhead costs	0.9	1.0	1.0	1.3	1.3	5.5
Change to capitalisation policy	0.7	0.9	0.6	0.8	0.9	3.9
Debt and equity raising costs	0.7	0.7	0.8	0.8	0.8	3.7
Total	2.2	2.6	2.4	2.8	3.1	13.2

Sources: SP AusNet Access arrangement proposal.⁴⁶⁴

6.3 Submissions

The Energy Users Coalition of Victoria (EUCV) provided a submission setting out its concerns regarding the Victorian Distribution businesses' proposals. Whilst the EUCV has some concerns with specific elements of SP AusNet's claimed opex, the EUCV considers that of the three Distribution Businesses (DBs), SP AusNet's proposal was the most reasonable, and the opex claims by the other two DBs are excessive in comparison. The EUCV also provided some specific comments on elements of SP AusNet's proposal:⁴⁶⁵

NECF—The cost of NECF would appear to be high when it is considered that in reality NECF merely reflects what actually occurs – SPA has always had a relationship with customers and the interposing of a retailer between the two would always have added costs. The EUCV is not convinced that the costs SPA claims will actually be incurred.

Carbon administration—SPA also claims an increase in opex to manage the new legislation imposing a price on carbon....the EUCV is not convinced that this requirement will impose the costs claimed.

SPIMS reallocation—SPA has claimed a step increase in relation to the allocation of corporate costs (SPIMS) and other overheads. ... and the EUCV does not consider that a change in corporate policy should result in the opex for a regulated subsidiary increasing by such means.

⁴⁶² SP AusNet, *Access arrangement information*, 30 March 2012, pp. 148–60.

⁴⁶³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 156.

⁴⁶⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 156.

⁴⁶⁵ Energy Users Coalition of Victoria, *Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012, p. 33.

6.4 Assessment approach

The AER has limited discretion in assessing opex.⁴⁶⁶ The AER is required to assess SP AusNet's forecast opex to decide whether it is satisfied that the forecast opex complies with applicable criteria prescribed by the NGL and NGR.⁴⁶⁷ The AER must approve each element of SP AusNet's proposed opex if satisfied it complies with, and is consistent with, the criteria prescribed in the NGL and NGR.

The AER assessed SP AusNet's proposed opex against the criteria governing opex under r. 91 of the NGR, taking into account the forecasts and estimates criteria under r. 74 of the NGR.⁴⁶⁸

- 91 Criteria governing operating expenditure
 - (1) Operating expenditure 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 delivering pipeline services.
 - (2) The AER's discretion under this rule is limited.
- 74 Forecasts and estimates
 - (1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.
 - (2) A forecast or estimate:
 - (a) must be arrived at on a reasonable basis; and
 - (b) must represent the best forecast or estimate possible in the circumstances.

The AER has amended SP AusNet's proposal to comply with requirements of rr. 74 and 91 of the NGR.

As part of its assessment, the AER compared historical expenditure to that proposed by SP AusNet, in order to better understand the key drivers behind SP AusNet's proposed forecast.

The AER has also taken into consideration any benchmarking studies provided. SP AusNet has submitted a benchmarking report from Economic Insights to support its forecast operating costs. Benchmarking studies of this nature are valuable inputs to the forecasting process. However, the assumptions that underlie such studies are subjective and therefore have only been used as a supplement to other analyses.

In forming its views the AER has also considered advice from Deloitte Access Economics' (DAE) on labour cost escalators.

6.5 Reasons for decision

The AER's draft decision is to not accept SP AusNet's forecast opex.

⁴⁶⁶ NGR, rr. 91(2) and 40(2).

⁴⁶⁷ NGR, rr. 91 and 40(2).

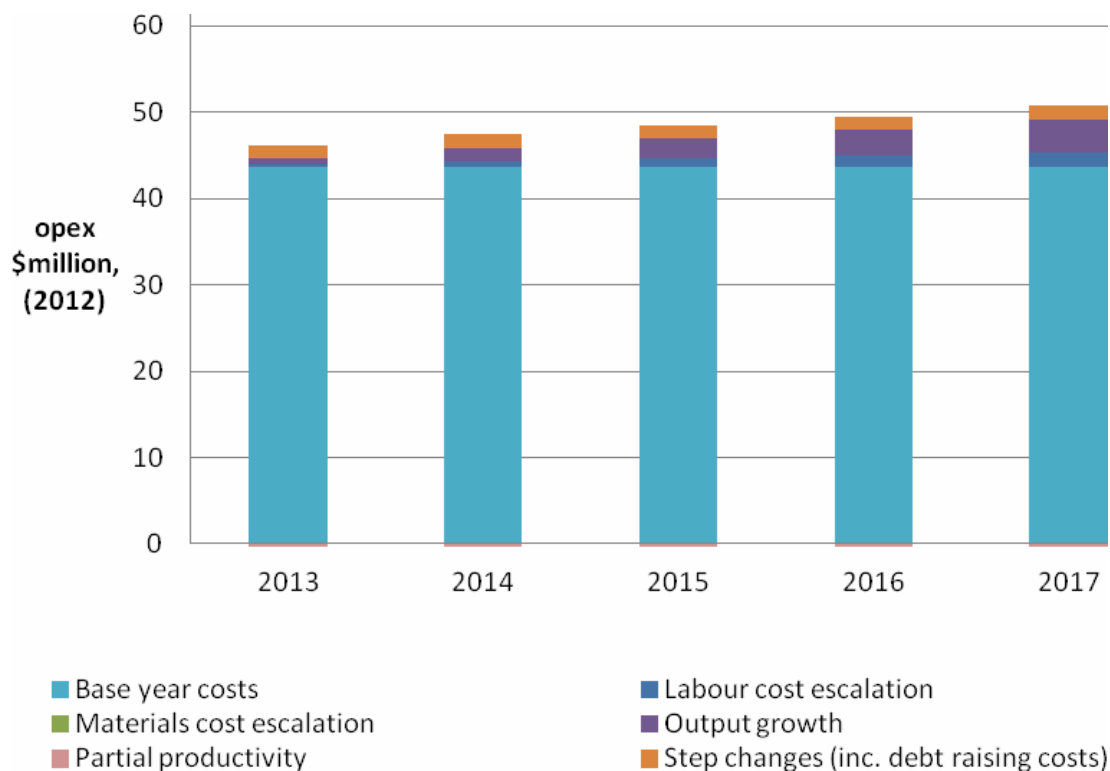
⁴⁶⁸ NGR, rr. 74(2) and 91(2).

The AER considers that several elements of SP AusNet's forecast opex do not comply with the opex criteria or the criteria for forecasts and estimates.⁴⁶⁹ Discussion of the AER's reasoning is presented under the following headings:

- forecasting base year opex
- network growth
- step changes
- escalation of base year opex
- other adjustments

Figure 6.3 disaggregates the AER's draft decision on opex for SP AusNet into different cost categories.

Figure 6.3 Disaggregation of AER draft decision on SP AusNet opex (\$m, \$2012)



Source: AER analysis.

6.5.2 Forecasting base year opex

SP AusNet has proposed an opex forecast based on a base year roll forward methodology, using 2011 as the base year. The AER agrees that a forecast of opex based on actual expenditure in 2011 would lead to the best estimate of opex possible in the circumstances.

⁴⁶⁹ NGR, rr. 91 and 74.

The AER's considers that a forecast using a base year of 2011 is appropriate for the following reasons:

- As many opex items are of a recurrent nature, actual costs incurred in 2011 are likely be a good indicator for the efficient costs to be incurred in the 2013–17 access arrangement period.
- In the 2008–12 access arrangement period, SP AusNet was subject to an opex efficiency mechanism. Under the opex efficiency mechanism, any rewards (or penalties) for opex efficiency gains (or losses) are added to the service provider's total revenue and carried forward for five years after the year in which the efficiency gain (or loss) is made. The AER considers that the opex efficiency mechanism that applies to SP AusNet would have provided strong incentives for SP AusNet to reduce costs to efficient levels in the 2008–12 access arrangement period.

Adjustments to base year costs

SP AusNet proposed four adjustments to its base year costs. These adjustments were: the normalisation of maintenance expenditure; removal of non-reference service costs; SPI Management Services (SPIMS) actuarial adjustments and removing unaccounted for gas payments from the base. The AER also examined whether SP AusNet has incurred other non-recurrent costs in the base year that reflect the particular circumstances of that year and that would not be expected to recur in the 2013–17 access arrangement period. The AER's draft decision on the adjustments to SP AusNet's base year and the reasons for those adjustments are set out in table 6.39 and discussed below.

Table 6.39 Proposal and AER draft decision on base year adjustments (\$m, \$2012)

	SP Proposed	AER Decision	Difference
Unadjusted 2011 opex	44.8	45.3	0.5
Normalisation of maintenance costs	1.2	–	–1.2
Removal of non-reference services costs	–1.6	–1.7	–0.1
SPIMS actuarial adjustment	–0.3	–	0.3
Returning UAFG to benchmark cost level	–0.9	–0.9	–
Movement in provisions	–	–0.6	–0.6
Expected escalation of base year costs in 2012	1.5	1.5	–0.0
Expected opex in 2012	44.7	43.7	–1.1

Source: AER analysis.

Normalisation of base year maintenance expenditure

In 2011, SP AusNet spent less on maintenance compared to budget. It attributed this variance in part to higher than average rainfall during the first quarter of 2011, continued seasonal rainfall thereafter and a contract structure that was favourable to SP AusNet for water related maintenance activities. As a result, SP AusNet proposed to not use its 2011

maintenance expenditure for the purpose of forecasting maintenance costs in the 2013–17 access arrangement period. It instead proposed to use an average of maintenance expenditure incurred in 2008–10.⁴⁷⁰

The AER's draft decision is not to use an average of maintenance expenditure in 2008–10 for its base year estimate. It considers that this methodology would not result in a total forecast of opex that has been arrived at on a reasonable basis or is the best estimate possible in the circumstances.

In any one year there are likely to be some costs that are higher than business-as-usual and some costs that are lower than business-as-usual. As there are many factors that influence actual opex in any one year in both directions, the AER considers a forecast of total opex is more likely to include estimation errors if a forecast is not reflective of all opex incurred a calendar year. As discussed above, the AER considers that actual opex in 2011 would lead to the best estimate of opex possible in the circumstances.

The AER also notes that SP AusNet is subject to an efficiency carryover mechanism under which SP AusNet retains the benefit of its reduced maintenance expenditure in the 2008–12 access arrangement period. As a result of this underspend, SP AusNet has accrued a carry over which will increase its allowed revenue for the next five years. If SP AusNet is permitted to apply a normalisation of base year maintenance expenditure then SP AusNet will retain the benefits of underspending in the 2008–12 access arrangement period but its maintenance expenditure in the 2013–17 access arrangement period would not be adjusted to reflect lower expenditure. An inconsistent approach between the opex used in the ECM and the opex used in setting base opex would lead to over-compensation for reduced maintenance expenditure in the base year. The AER is not satisfied that this approach consistent with either r. 74(2)(a) or (b) of the NGR.

Removal of non reference service costs

SP AusNet submitted that costs associated with non-reference services are set out in the regulatory accounts but are not included in the building block costs.⁴⁷¹ Accordingly, SP AusNet removed \$1.3m from the regulatory accounts opex expenditure. The AER approves SP AusNet's approach in removing this expenditure from the base year.

Unaccounted for Gas (UAFG)

UAFG refers to the difference between the measured quantity of gas entering the gas distribution system and the gas billed to customers. UAFG can arise because of metering errors; theft; inaccuracy in the conversion from quantity of gas measured to energy (reflecting discrepancies in temperature, pressure, heating value, altitude or the gas compressibility factor); and leakage.

SP AusNet submits that it supports the current Victorian UAFG incentive arrangement providing the benchmark is set appropriately (it submitted that the benchmark set by the ESC was unrealistically low).⁴⁷² SP AusNet further submitted that it expected that the AER and the

⁴⁷⁰ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 141–143.

⁴⁷¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 235.

⁴⁷² SP AusNet, *Access arrangement information*, 30 March 2012, p. 201.

ESC would work together to ensure that any change to the UAFG benchmark in the incentive mechanism for the 2013–17 access arrangement period would be given effect through an appropriate amendment to schedule 1 of the Victorian Gas Distribution System Code.⁴⁷³

SP AusNet's 2008–12 access arrangement is subject to a benchmark in relation to UAFG. This encourages it to reduce UAFG below a pre-determined benchmark. SP AusNet proposed to remove \$868 000 (\$2012) for expenses relating to UAFG from the base year opex.⁴⁷⁴ SP AusNet submitted that in the 2013–17 access arrangement period, UAFG expenditure is assumed to be zero, because actual rates of UAFG are assumed to be equal to the UAFG benchmark, resulting in no financial windfall or penalty.⁴⁷⁵

Under the current Victorian UAFG approach, the Australian Energy Market Operator (AEMO) is responsible for the operational procedures that implement the UAFG benchmark. The current UAFG benchmark is contained in schedule 1 of the Victorian Gas Distribution System Code.

The Victorian Gas Distribution System Code only includes UAFG benchmarks up to 2012.⁴⁷⁶ There is no statutory power permitting the AER to set such a benchmark. In the absence of amendments to the Victorian Gas Distribution System Code to include benchmarks beyond 2012, or legislative amendments empowering the AER to set the benchmark, it is not possible for a benchmark to be set.

The AER considers that as it cannot set a benchmark then the Victorian distributors will bear the cost of UAFG in their network. The AER notes that this is consistent with other jurisdictions regulated by the AER. Accordingly, the AER considers that SP AusNet should submit, as part of its revised proposal an opex step change for the UAFG costs SP AusNet will now incur.

The AER notes that actual UAFG expenditure in SP AusNet's base year was calculated with reference to the ESC benchmarks and is not reflective of the costs for UAFG which SP AusNet may now incur. Accordingly, this forecast expenditure has not been arrived at on a reasonable basis as the AER will not be able to set benchmarks for the 2013–17 access arrangement period. As a consequence it is not the best estimate available in the circumstances and so this forecast expenditure does not comply with r. 74(2) of the NGR. The AER has therefore removed this actual expenditure from SP AusNet's base year and requests that SP AusNet submit, as part of its revised proposal, a forecast of the UAFG costs it will now incur.

In the event that the Victorian Gas Distribution System Code is amended to include benchmarks beyond 2012 or legislative change allows for the AER to set a benchmark after its final decision has been made, and this materially reduces SP AusNet's operating expenditure then the AER will need to consider whether a negative change event has occurred.

⁴⁷³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 198.

⁴⁷⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 141.

⁴⁷⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 141.

⁴⁷⁶ Gas Distribution System Code, Schedule 1, Part C.

SPIMS and actuarial adjustment

SPIMS, a related party, provide SP AusNet with management services under a contractual arrangement.⁴⁷⁷ SP AusNet removed \$338 000 (\$2012) from its base year expenditure for costs it paid to SPIMS for an actuarial adjustment pertaining to its defined benefits superannuation contribution.⁴⁷⁸

SP AusNet stated the purpose of the adjustment was to:⁴⁷⁹

... eliminate any actuarial-based increases or decreases in the SPIMS charge in

SP AusNet's base year operating expenditure, as reflected in the base year's (2011) regulatory accounts. This elimination is required because the base year is used to set SP AusNet's forecast operating expenditure benchmark, and inter alia, actuarial gains and losses should net off over time.

The AER agrees actual gains and losses should net out over time and the best forecast of these gains and losses is zero. However, the AER notes SP AusNet was subject to an efficiency incentive and carry-over mechanism in the 2008–12 access arrangement period. The increase in this actuarial adjustment in 2011 has reduced SP AusNet's carryover under the mechanism, penalising SP AusNet for the increase. Consequently the AER considers removing this adjustment from base opex effectively penalises SP AusNet twice for the increase. Accordingly the AER considers the proposed base year adjustment is inconsistent with the efficiency incentive and carry-over mechanism in SP AusNet's 2008–12 Access arrangement.

Movements in provisions

SP AusNet's opex includes provisions. A provision is a liability of uncertain timing or amount.⁴⁸⁰ Provision accounts are used to set aside amounts for the payments of these liabilities for when they arise for settlement. A movement in provisions occurs when the amount set aside differs to the amount paid out. The AER considers the movement in these provisions does not represent actual costs incurred in a given year and should be removed from base year expenditure. The AER considers this necessary in setting forecast opex for SP AusNet, on the basis that movements in provisions:

- may be used to represent the reported accounts for SP AusNet differently from its underlying economic circumstances
- may prevent and distort the comparison of SP AusNet's expenditure on a consistent basis from year to year
- can be affected by a change in accounting standards despite expenditure remaining unchanged.

⁴⁷⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 31.

⁴⁷⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 140.

⁴⁷⁹ SP AusNet, *Response to information request 29*, 10 August 2012, p. 1.

⁴⁸⁰ AASB, *137: Provisions, contingent liabilities and contingent assets*, section 10.

Based on the above, the AER considers removing the movement in provisions is a reasonable basis for forecasting opex and will produce the best opex forecast possible in the circumstances.⁴⁸¹

The AER notes in calculating the carryover of efficiency gains and losses accrued under the opex incentive mechanism it removed the movement in provisions from SP AusNet's actual opex in accordance with attachment 7.

Expected Opex in 2012

In rolling forward from its 2011 base year SP AusNet noted that the rate of change for 2012 is based on a \$1.5 million real increase to operating expenditure that was allowed under the price review for the current regulatory period.⁴⁸² SP AusNet also stated that this amount was determined after benchmarks have been adjusted for customer numbers and usage volumes as required by the Efficiency Carryover Mechanism for the 2008–12 access arrangement period.⁴⁸³

The AER considers that this approach ensures that the forecast opex complies with rr. 74 and 91 of the NGR. However, as noted in attachment 7 the AER considers the adjustments SP AusNet made to benchmark opex, in particular the weights SP AusNet applied to the growth factors in its calculation of the growth adjustment, were not consistent with SP AusNet's Access arrangement for 2008–12. As such, the AER has applied SP AusNet's proposed methodology, but has adjusted SP AusNet's opex benchmarks in accordance with attachment 7.

6.5.3 Rate of Change increase in Opex

Real cost escalators

The AER is not satisfied SP AusNet's proposed real labour and materials cost escalators have been arrived at on a reasonable basis or represent the best possible forecast of labour and materials cost escalation over the 2013–17 access arrangement period. Appendix C contains the AER's consideration of the real cost escalators proposed by SP AusNet.

Table 6.40 outlines the impact of the AER's draft decision on real cost escalators for SP AusNet.

Table 6.40 Impact of real cost escalation (\$m, \$2012)

	2013	2014	2015	2016	2017	Total
Proposed real cost escalation	1.2	2.4	3.7	5.0	6.5	18.7
AER draft decision real cost escalation	0.3	0.7	1.1	1.3	1.7	5.1
Difference	-0.8	-1.7	-2.6	-3.6	-4.8	-13.6

Source: AER analysis.

⁴⁸¹ NGR, rule 74(2).

⁴⁸² SP AusNet, *Access arrangement information*, 30 March 2012, p. 145.

⁴⁸³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 145.

Productivity improvements

SP AusNet proposed to adjust its labour cost escalation factors for productivity improvements. SP AusNet proposed forecasts of productivity gains which were developed by Economic Insights. Economic Insights used industry level data to model productivity growth in gas networks. The model was then applied to SP AusNet's specific forecasts of inputs, outputs and environmental characteristics. Economic Insights forecast that SP AusNet can be expected to achieve productivity improvements averaging 0.8 per cent per annum over the 2013–17 access arrangement period (table 6.41).⁴⁸⁴

Economic Insights forecast productivity gains to be significantly lower for SP AusNet in the 2013–17 access arrangement period because many of the gains in productivity that have been achieved were one off in nature. Consequently, SP AusNet considered that the recent pace of productivity growth cannot be maintained.

Table 6.41 SP AusNet's proposed opex partial factor productivity forecasts (per cent)

	2012	2013	2014	2015	2016	2017
Productivity improvement	1.1	0.7	0.8	0.8	0.9	0.9

Source: Economic Insights, *2013–2017 Gas Access Arrangement Review—Access Arrangement Information*, Appendix 6A, 26 March 2012.

The proposed opex partial factor productivity forecasts reduce SP AusNet's total opex by 1.9 per cent over the 2013–17 access arrangement period.⁴⁸⁵

The AER considers the methodology proposed by SP AusNet is an appropriate methodology to forecast opex partial factor productivity. The AER has examined the impact of substituting customer numbers and energy throughput in Economic Insights' model with the AER's determined number from Appendix C. The AER considers the impact of the change partial factor productivity from the use of Appendix C numbers does not significantly change SP AusNet's total forecast opex. For this reason the AER considers SP AusNet's proposed approach to opex partial factor productivity forecasts is reasonable and represents the best methodology available in the circumstances.⁴⁸⁶ As such, the AER has applied SP AusNet's proposed methodology the AER's adjusted base year forecast.

Table 6.42 Impact of partial productivity forecasts (\$, \$2012)

	2013	2014	2015	2016	2017	Total
SP AusNet's proposal	-0.3	-0.6	-1.0	-1.4	-1.8	-5.0
AER's draft decision	-0.3	-0.6	-1.0	-1.4	-1.7	-4.9
Difference	0.0	0.0	0.0	0.0	0.1	0.1

Source: AER analysis.

⁴⁸⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 148.

⁴⁸⁵ AER analysis.

⁴⁸⁶ NGR, r. 74(2)(b).

Network growth

SP AusNet accounted for network growth through the application of an output growth escalator in its opex forecasting approach. Economic Insights quantified this relationship between network size and opex as a composite function of customer numbers and energy throughput. Based on forecasts of customers and energy throughput, SP AusNet proposed the output growth rates in table 6.43, which contributes 4.2 per cent of total opex over the 2013–17 access arrangement period.⁴⁸⁷

Table 6.43 SP AusNet’s proposed output growth forecasts (per cent)

	2012	2013	2014	2015	2016	2017
Output growth	2.4	1.7	1.8	1.7	1.6	1.6

Source: Economic Insights, *2013–2017 Gas Access Arrangement Review—Access Arrangement Information*, Appendix 6A, 26 March 2012.

The AER considers network growth should deliver economies of scale, particularly for operating costs. Although the output growth forecasts proposed by SP AusNet do not include economies of scale, these are included in the forecast productivity improvements. Consequently, the AER is satisfied that the approach proposed by SP AusNet to account for network growth is a reasonable basis on which to forecast opex.⁴⁸⁸

However, while the general approach to account for network growth would seem reasonable, the specific output growth escalators proposed by SP AusNet are forecast on the basis of its forecast customer numbers and energy throughput. As discussed in attachment 9, the AER is not satisfied that SP AusNet’s customer numbers and energy throughput forecasts represent the best forecasts possible in the circumstances.

However the AER has examined the impact of replacing customer numbers and energy throughput on proposed output growth and partial factor productivity. The AER considers the use of customer numbers and energy throughput in appendix C does not significantly impact SP AusNet’s total opex. Consequently the AER is satisfied that the output growth escalators proposed by SP AusNet are reasonable and represent the best forecasts possible in the circumstances.⁴⁸⁹

6.5.4 Step changes

As discussed in section 6.2.5, SP AusNet has proposed an increase in expenditure in relation to expenditure that it considers is not reflected in the base year.

The AER has reviewed SP AusNet’s proposed step changes against r. 91 of the NGR. The AER’s review has considered whether the proposed program of expenditure is consistent with r. 91 of the NGR; and whether an incremental increase above SP AusNet’s base year opex is required to give effect to r. 91 of the NGR.

⁴⁸⁷ AER analysis.

⁴⁸⁸ NGR, r. 74(2)(a).

⁴⁸⁹ NGR, r. 74(2)(b).

Where the AER considers these step changes meet r. 91 of the NGR, an incremental increase in base year opex that the AER considers is consistent with rr. 91 and 74 of the NGR is included in total forecast opex.

In general the AER considers an increase in opex is not consistent with r. 91 of the NGR where the additional expenditure is intended to address a regulatory requirement or industry standard that has not changed since the 2008–12 access arrangement period. The AER considers that an increase in opex to implement an existing regulatory requirement may provide an incentive for service providers to spend less than required in meeting such requirements or standards. The AER considers this practice is not consistent with a prudent service provider acting in accordance with accepted good industry practice to achieve the lowest sustainable cost of delivering pipeline services.

In some cases, the AER considers that expenditure may be a program of expenditure that is consistent with the requirements governing opex under r. 91 of the NGR but it considers that an incremental increase in the total opex allowance would not be consistent with rr. 74 or 91 of the NGR. For instance, if a program of expenditure is intended to improve productivity, the AER would generally consider, unless circumstances indicate otherwise, that there is sufficient expenditure in the base opex in order to fund the program.

The AER's assessment of proposed step changes also recognises that the opex program carried out by a service provider will not be exactly the same from year to year. For instance actual opex in the base year reflects both recurrent expenditure and non-recurrent expenditure. However, when forecasting opex for the 2013–17 access arrangement period the AER has not sought to estimate all non-recurrent expenditure incurred in the base year. Therefore to ensure a forecast of total opex that is consistent with r. 74 of the NGR, the AER also does not automatically consider there should be a step up in opex because a program of expenditure was not undertaken in the base year but needs to be undertaken in the 2013–17 access arrangement period. Instead the AER considers on case by case basis whether base year opex would be likely to be sufficient in order to fund the proposed program of opex or whether a step up in opex is required.

A comparison between the step changes proposed by SP AusNet and the AER's draft decision is below in table 6.44.

Table 6.44 Impact of step changes (\$m, 2012)

	2013	2014	2015	2016	2017	Total
SP AusNet's proposal	4.4	4.7	4.5	5.0	5.2	23.8
AER's draft decision	1.5	1.7	1.4	1.6	1.7	7.8
Difference	-3.0	-3.0	-3.1	-3.4	-3.5	-16.0

Source: AER analysis.

The following sections discuss the AER's draft decision in relation to each proposed step change.

Survey of gas mains and services in drains

Prompted by a Worksafe Victoria industry-wide alert about the dangers of gas pipelines running through storm water drains and sewers, and subsequent consultation to identify

appropriate responses, SP AusNet has proposed two survey programs to identify problem gas mains and services and seek to relocate them.⁴⁹⁰

The AER's draft decision is not to increase opex to fund this program. It is not satisfied that an increase in opex to address the risks associated with gas pipes in drains would be opex 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 delivering pipeline services.

SP AusNet's proposal seeks to address the risks associated with gas mains that may be encroaching in drainage systems. While the AER recognises that a prudent service provider would need to undertake opex to reduce safety risks to an acceptable level, the AER is not satisfied that the opex for this program satisfies r. 91 of the NGR. The AER considers that if the risks associated with gas pipes installed in drains are material, SP AusNet acting in accordance with good industry practice to achieve the lowest sustainable cost of delivering pipeline services would have taken immediate action to address this risk. It does not consider an increase in opex to fund a program to address a risk that should have already been addressed prior to the 2013–17 access arrangement period would be in accordance with good industry practice.

Changes to heater maintenance

Prompted by an assessment of a sample of SP AusNet's water bath heaters that revealed high levels of carbon monoxide at some sites, SP AusNet have proposed additional maintenance expenditure to ensure its maintenance practices comply with the recommended Australian Standard (AS-3814). It has proposed expenditure of \$280,000 over 2013–17 for this program.⁴⁹¹

The AER's draft decision is to not increase SP AusNet's opex allowance to fund this program. The AER is not satisfied that an incremental increase in opex to change heater maintenance policies would be consistent with the requirements of r. 91 of the NGR.

While the AER would encourage SP AusNet to undertake the expenditure necessary to alter its maintenance practices in order to comply with the recommended standard, it is not satisfied that allowing for opex for these activities would be expenditure that 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 AER is not aware of any change in the recommended Australian standard in relation to carbon monoxide levels in water bath heaters since the ESC's previous access arrangement decision. If SP AusNet should need to increase expenditure on heater maintenance in the 2013–17 access arrangement period in order to meet the recommended Australian standard, then its current maintenance practices do not meet that standard. The AER does not consider that it would not be in accordance with accepted good industry practice by funding SP AusNet to comply with a standard that it should already be compliant with.

⁴⁹⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 150.

⁴⁹¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 150.

Operation fees on CTMs

SP AusNet pays APA GasNet for the operation of custody transfer meters (CTMs) at injection points to its network. SP AusNet forecast an increase in opex due to charges for three new city gates it forecasts to be installed in its network.⁴⁹²

The AER agrees SP AusNet will incur an increase in opex in relation to operation fees for three new city gates. However, the AER notes SP AusNet has applied output growth escalation to its opex forecast (section 6.5.3) as part of its rate of change forecasting approach. Output growth escalation provides SP AusNet the additional opex required to supply more energy to more customers. The AER considers this includes the operating and maintenance expenditure associated with new network equipment, including CTMs. Consequently, the AER considers the proposed step change for operation fees on CTMs double counts network growth escalation and including this step change is not a reasonable basis to forecast opex and does not produce the best forecast possible in the circumstances.⁴⁹³ Similarly, the addition of this step change does not produce an opex forecast 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 delivering pipeline services.⁴⁹⁴

Magnetic tomography inspections of unpiggable gas pipelines

SP AusNet has proposed to introduce Magnetic Tomography Method (MTM) a newly available inspection technology that will enable SP AusNet to assess the integrity of pipelines that, due to their geometry (sharp bends, changing diameter), are not able to be inspected with existing technologies.⁴⁹⁵

The AER's draft decision is not to increase opex to fund this program. It is not satisfied that an increase in opex for MTM inspections of unpiggable gas pipelines would be opex 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 delivering pipeline services.

SP AusNet has determined that MTM inspections are a technology suitable for trial. The AER understands that a contractor has conducted field trials for SP AusNet of this technology but has yet to receive the full results of the trial. The AER understands that the results from the trial will help SP AusNet to determine which pipeline sections will require dig-up for further verification and how results from the MTM inspections compared with recent pigging of the same section of pipeline.⁴⁹⁶ As the results of the field trials appear to be important for determining how SP AusNet will use MTM in the future and what opex SP AusNet will incur in the 2013–17 access arrangement period related to MTM, the AER is not satisfied at this time that that an incremental increase in opex for MTM inspections is opex 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 delivering pipeline services.

⁴⁹² SP AusNet, *Access arrangement information*, 30 March 2012, p. 150.

⁴⁹³ NGR, r. 72(2).

⁴⁹⁴ NGR, r. 91(1).

⁴⁹⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 150.

⁴⁹⁶ SP AusNet, *Response to information request 7*, 12 June 2012, pp. 11–12.

Pipe saddle support repairs

Pipework saddle supports are used as supporting structures for various gas pipework and valves. This program proposes to rectify and repair around 50 pipework saddle supports following the identification of issues with pipe deterioration.⁴⁹⁷

The AER's draft decision is not to increase opex to fund this program. It is not satisfied that an increase in opex for pipe saddle support repairs would be opex 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 delivering pipeline services.

The AER accepts that in many cases, it may be a prudent business decision to treat corrosion in pipelines. However, SP AusNet notes that pipe supports are already inspected twice yearly for corrosion. The AER also notes that AS 2885.3 requires a licensee to take appropriate remedial action after an inspection identifies that pipeline coating integrity has been affected. For these reasons the AER considers that all corrosion in pipelines would be identified at the time of these regular inspections. The AER expects that if pipe wall deterioration was significant, a prudent service provider acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of delivering pipeline services would address the issue accordingly after such an inspection.

The AER also notes that some maintenance activities undertaken by a service provider are non-recurrent. Therefore the AER considers that SP AusNet's actual opex in 2011 is likely to include expenditure on some activities that may have been efficient in 2011 but do not need to be undertaken in the 2013–17 access arrangement period. Even if the AER agreed that an increase in opex to fund pipe saddle support repairs was warranted in the 2013–17 access arrangement period, there is likely to be some other maintenance expenditure incurred in 2011 that was not recurrent expenditure, the AER is not satisfied that SP AusNet's base opex does not already provide sufficient funding for a relatively small incremental increase in non-recurrent opex. Therefore the AER is also not satisfied that a forecast of opex that has been increased to reflect increased expenditure for pipe saddle support repairs is a forecast of total opex that has been arrived at on a reasonable basis or is the best forecast possible in the circumstances.

National Energy Customer Framework (NECF)

The NECF is a new regulatory framework that seeks to harmonise the ways customers interact with retailers and distributors across the gas and electricity sectors. The new framework will alter some of the SP AusNet's obligations with respect to retail customers, and SP AusNet submitted that this will result in an increase in its operating expenditure over the 2013–17 access arrangement period.⁴⁹⁸

The AER considers that SP AusNet's proposed step change in relation to the introduction of the NECF is not expenditure which would be incurred by a prudent and efficient service provider. The AER has reached this conclusion on the basis of a decision by the Victorian Government, announced on 13 June 2012, to delay the introduction of the NECF in

⁴⁹⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 150.

⁴⁹⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 151.

Victoria.⁴⁹⁹ The Victorian Government also announced it would explore opportunities to align state retail and consumer protection arrangements with the national framework where this realignment would not result in lower standards.⁵⁰⁰

At the time SP AusNet submitted its Access arrangement proposal, the NECF was due to commence in Victoria on 1 July 2012. The calculation of the additional costs put forward in SP AusNet's Access arrangement proposal was predicated on the NECF commencing on this date (or at least prior to 1 July 2013). However, at this stage it is uncertain when and in what form the NECF will commence in Victoria and so the AER is unable to conclude that the costs proposed by SP AusNet will be incurred in the 2013-17 access arrangement period.

Accordingly the AER considers that NECF related expenditure can best be assessed as a pass through application once the relevant legislation is passed in Victoria. The AER considers it appropriate to include a NECF specific pass through in SP AusNet's Access arrangement. As discussed in attachment 11 this NECF specific pass through is not subject to a materiality clause.

Carbon tax administration

SP AusNet is now liable to purchase carbon credits to cover its fugitive emissions, calculated under the National Greenhouse Emissions Reporting Scheme. SP AusNet submitted that the costs of administering this program should be included as a step change in SP AusNet's opex allowance.⁵⁰¹

The AER accepts that administering the carbon scheme represents a step change in SP AusNet's opex as this expenditure was not incurred in the 2011 base year. However, the AER has concluded that the amount proposed by SP AusNet does not reflect the quantum of opex that would be incurred by a prudent and efficient service provider. The AER considers that SP AusNet's proposed staffing allocation is in excess of that required to administer the carbon scheme. SP AusNet indicated that the equivalent of one full time staff member will be dedicated to implementing this program for SP AusNet's Victorian gas distribution system.⁵⁰² Additionally another full time staff member will dedicate 50 per cent of its time to implementing this program for SP AusNet's Victorian gas distribution system.⁵⁰³ As such, SP AusNet indicated that it requires 1.5 FTE staff dedicated to administering this program for its Victorian gas distribution business.⁵⁰⁴

The AER considers that much of the work proposed by SP AusNet would be intermittent in nature and whilst there may be periods where one or more full time staff are required to work on administering this project, administering this program will not require this level of staffing on an ongoing basis throughout the access arrangement period. The AER considers 0.5 FTE

⁴⁹⁹ Media release: Victorian Government defers National Energy Retail Law to safeguard consumer protections Wednesday, 13 June 2012 - <http://www.premier.vic.gov.au/media-centre/media-releases/4155-victorian-government-defers-national-energy-retail-law-to-safeguard-consumer-protections.html>.

⁵⁰⁰ Media release: Victorian Government defers National Energy Retail Law to safeguard consumer protections Wednesday, 13 June 2012 - <http://www.premier.vic.gov.au/media-centre/media-releases/4155-victorian-government-defers-national-energy-retail-law-to-safeguard-consumer-protections.html>.

⁵⁰¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 155.

⁵⁰² SP AusNet, *response to AER information request 7*, 8 June 2012.

⁵⁰³ SP AusNet, *response to AER information request 7*, 8 June 2012.

⁵⁰⁴ SP AusNet, *response to AER information request 7*, 8 June 2012.

staff is sufficient to administer this program and reflects the expenditure which would be incurred by a prudent and efficient distribution business. The AER also approves SP AusNet's proposed audit costs required to administer this scheme. Accordingly, the AER approves \$108,750 per annum to administer the carbon scheme.

Interaction with SP AusNet's pass through application

The AER previously approved a pass through application for SP AusNet's carbon costs, this pass through application covered the period 1 July 2012 to 31 December 2012. In this pass through application, the AER approved total additional operating costs of \$250 000, comprising \$140 000 for one-off start-up costs and \$110 000 in the half-year⁵⁰⁵ for the cost of management, audit and modelling.⁵⁰⁶ In accepting this forecast the AER noted that:

To mitigate any risk that the administrative costs proposed by SP AusNet are not incurred within the pass through period, but deferred to the next access arrangement period, the AER will have regard to the pass through amount when considering carbon pricing related administrative costs proposed by SP AusNet for the next access arrangement period. This will avoid any double counting of allowed costs to be recovered from customers.⁵⁰⁷

In its access arrangement proposal, SP AusNet has proposed administration costs relating to:

- additional tariff modelling;
- collation and audit of the submissions to Government;
- collation and audit of the submissions to the AER in regard to the annual adjustment and 'true up' for the carbon tariff;
- the purchase of the carbon credits; and
- internal reporting.⁵⁰⁸

The AER notes that SP AusNet's access arrangement proposal does not include costs in the nature of one-off start-up costs and that the costs proposed relate to the ongoing administration of the scheme. As such, the AER considers that the costs which SP AusNet proposed for the 2013–17 access arrangement period are not costs for which it has previously been funded.

6.5.5 Other adjustments to forecast opex

As discussed in section 6.5.2, SP AusNet also proposed adjustments to its forecast opex for costs which were set to zero in the base year for the purposes of forecasting. SP AusNet proposes that these need to be included in the opex allowance for determining the total operating expenditure forecast for the next regulatory period.

⁵⁰⁵ This amount of \$110,000 was approved for a six month period, indicating an annual cost of \$220,000.

⁵⁰⁶ AER Decision, *SP AusNet change in taxes event pass through application*. June 2012. p. 15.

⁵⁰⁷ AER Decision, *SP AusNet change in taxes event pass through application*. June 2012. p. 15.

⁵⁰⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 155.

Table 6.45 SP AusNet proposal and AER draft decision on other adjustments to forecast opex (\$m, 2012)

	2013	2014	2015	2016	2017	Total
Proposed other adjustments	2.2	2.6	2.4	2.8	3.1	13.2
AER draft decision other adjustments	1.4	1.6	1.4	1.5	1.7	7.5
Difference	-0.9	-1.0	-1.1	-1.4	-1.4	-5.7

Source: AER analysis.

Reallocation of SPIMS and overhead costs

SPIMS and overhead costs are allocated across SP AusNet's networks. The electricity distribution advanced metering infrastructure (AMI) project is currently allocated a portion of these overhead costs. At the completion of the AMI project in 2013, these costs will be reallocated back to the electricity distribution, electricity transmission, and gas distribution businesses.⁵⁰⁹ SP AusNet forecast that this will increase its gas businesses opex by \$5.5 million (\$2012) in the next access arrangement period.⁵¹⁰

However, the AER notes SP AusNet's forecast opex for the 2008–12 access arrangement period was based on the SPIMS and overhead costs incurred in 2006, prior to the commencement of the first AMI budget period in 2009.

SP AusNet gas business has retained the full benefit of this temporary reduction in overhead costs within the 2008–12 access arrangement period. Further, these reductions in SPIMS and overhead costs have registered as efficiency gains under SP AusNet's opex incentive mechanism, for which it will receive positive carryover amounts in the next access arrangement period.

If a step change was given to SP AusNet it would be rewarded twice in the 2013–17 access arrangement period for an efficiency gain that was the result of a government mandated project. That is, it would receive its accrued positive carryover amount and the step change. This would also allow it to retain the efficiency gains made in the 2008–12 access arrangement period for longer than five years, which would be inconsistent with its opex incentive mechanism.

Change to capitalisation policy

SP AusNet recently reviewed its approach to capitalisation of expenditure. It determined that the following costs should now be treated as maintenance expenditure from 2012:⁵¹¹

- supply regulator and associated equipment periodic maintenance
- industrial and commercial regulator and associated equipment periodic maintenance
- supervisory control and data acquisition (SCADA) miscellaneous works.

⁵⁰⁹ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 156–157.

⁵¹⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 157.

⁵¹¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 157.

It determined that these works should no longer be capitalised because these activities did not necessarily extend the asset's life beyond its original asset life. SP AusNet forecast \$3.9 million (\$2012) of additional opex that would previously have been treated as capital.⁵¹² The AER is satisfied this expenditure is maintenance expenditure and should be included in forecast opex.

Debt raising costs

Debt raising costs are transaction costs incurred each time debt is raised or refinanced. These costs may include underwriting fees, legal fees, company credit rating fees and other transaction costs. Debt raising costs are an unavoidable aspect of raising debt that would be incurred by a prudent service provider acting efficiently. Accordingly, the AER provides an allowance to recover an efficient amount of debt raising costs.

The AER's approach to debt raising costs is based on a report from the Allen Consulting Group (ACG) commissioned by the ACCC in 2004.⁵¹³ The AER has updated the ACG approach with more recent market data. The AER most recently updated this market data in August 2011. The approach uses a five year window of up to date bond data to reflect current market conditions.

This method provides estimates of debt raising costs that would be incurred by a prudent service provider, acting efficiently. This is because the ACG approach:

- First, identifies the types of transaction costs that a prudent service provider acting efficiently would incur in raising debt.
- Second, quantifies the level of these costs, taking into account the specific circumstances of the service provider, with reference to market rates for the relevant services.

It follows that, this should, in turn, estimate a debt raising cost forecast that provides SP AusNet with a reasonable opportunity to recover at least its efficient transaction costs in raising finance.⁵¹⁴

The ACG method involves calculating the benchmark bond size, and the number of bond issues required to rollover the benchmark debt share (60 per cent) of the RAB. The AER's standard approach is to amortise the upfront costs that are incurred using the relevant nominal vanilla WACC over a ten year amortisation period. This is then expressed in basis points per annum (bppa) as an input into the post tax revenue model (PTRM). The AER's approach recognises that credit rating costs can be spread across multiple bond issues, which lowers the benchmark allowance (as expressed in bppa) as the number of bond issues increases.

SP AusNet proposed debt raising costs of 9.2 bppa or \$3.73m (real, 2012) over the 2013–17 access arrangement period based on the AER's established method from the 2004 ACG report, and assuming 3-4 bond issues.⁵¹⁵

⁵¹² SP AusNet, *Access arrangement information*, 30 March 2012, pp. 156–157.

⁵¹³ Simply because the report was written in 2004 does not make it obsolete, Australian Competition Tribunal, Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14 (26 July 2012), paragraphs 314–330.

⁵¹⁴ NEL, s.24.

The AER accepts SP AusNet's method for determining debt raising costs. The method is the established AER method that is based on a 2004 ACG report, which provides network service providers with a reasonable opportunity to recover at least the efficient costs in providing reference services.⁵¹⁶ Also, the method provides for the expenditure incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.⁵¹⁷

Benchmark debt raising costs

Although the AER has accepted SP AusNet's method for determining debt raising costs, the AER has made changes to SP AusNet's RAB value. As a result, this has changed the debt component of SP AusNet's RAB and consequentially the estimated amount of debt raising costs. The AER's benchmark allowance, however, still provides for four standard sized bond issues. The unit costs and the benchmark debt raising cost are shown in table 6.46. As this draft decision is based on indicative rates, the AER will update this analysis for the final decision based on the debt component of the RAB and WACC to be determined at the time.

Table 6.46 AER's draft decision on debt raising costs for SP AusNet based on a nominal WACC of 7.16 per cent

Value	Explanation	1 issue	2 issues	4 issues
Total raised amount	Multiples of median MTN (\$250m)	\$250m	\$500m	\$1000m
Gross underwriting fee	Median gross underwriting spread, upfront per issue, amortised	6.45	6.45	6.45
Legal and roadshow	\$195 000 upfront per issue, amortised	1.12	1.12	1.12
Company credit rating	\$55 000 per annum	2.20	1.10	0.55
Issue credit rating	4.5 basis points upfront per issue, amortised	0.65	0.65	0.65
Registry Fees (Startup)	\$4 000 upfront per issue, amortised	0.02	0.02	0.02
Registry Fees (Ongoing)	\$9 000 per issue per annum	0.36	0.36	0.36
Total	Basis points per annum	10.8	9.7	9.2

Source: AER analysis.

This has resulted in the debt raising costs for SP AusNet outlined below in table 6.47.

Table 6.47 Debt raising costs for SP AusNet (\$m real, 2012)

Year	2013	2014	2015	2016	2017
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⁵¹⁵ SP AusNet, *Access arrangement information*, March 2012, p. 159.

⁵¹⁶ NEL, s. 24.

⁵¹⁷ NGR, r. 91.

Debt raising costs	0.68	0.70	0.72	0.74	0.75
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Source: AER analysis.

6.6 Revisions

The AER requires SP AusNet to make the following revisions to its Access arrangement proposal consistent with requirements of the NGR and NGL:

Revision 6.1: Make all necessary amendments to reflect the AER's draft decision on the proposed opex allowances for the 2013–17 access arrangement period, as set out in table 6.35.

7 Incentive mechanisms

Incentive mechanisms are an important tool to provide service providers a continuous incentive to reduce costs and increase efficiency in the provision of pipeline services. Incentive mechanisms provide a financial reward (or penalty) for efficiency gains (or losses) achieved relative to expenditure benchmarks for the access arrangement period. Any rewards (or penalties) for efficiency gains (or losses) are added to the service provider's total revenue and carried forward for five years after the year in which the efficiency gain (or loss) is made. Five years corresponds to the length of the access arrangement period.

This attachment presents the AER's assessment of SP AusNet's proposed:

- carryovers from the operation of the incentive mechanisms in the 2008–12 access arrangement period, namely the efficiency incentive and carry-over mechanism
- incentive mechanisms for the 2013–17 access arrangement period.

7.1 Draft decision

7.1.1 Carryover from the 2008–12 access arrangement period

The AER does not approve SP AusNet's proposed carryover of \$23.7 (2012) from the 2008–12 access arrangement period because it was not calculated according to the incentive mechanism in SP AusNet's current access arrangement. The AER has calculated that SP AusNet accrued a total carryover of \$24.2 million (\$2012) during the 2008–12 access arrangement period (table 7.48).

Table 7.48 AER draft decision on SP AusNet carryover from the 2008–12 access arrangement period (\$million, 2012)

	2013	2014	2015	2016	2017	Total
SP AusNet proposed	13.1	6.7	5.3	-1.4	-	23.7
AER draft decision	13.4	3.4	8.6	-1.2	-	24.2
Difference	0.3	-3.3	3.3	0.2	-	0.5

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p. 195; SP AusNet, PTRM; AER analysis.

7.1.2 Proposed incentive mechanism for the 2013–17 access arrangement period

The AER does not approve SP AusNet's proposed incentive mechanisms. It considers amendments are required to make the opex incentive mechanism consistent with r. 98 of the NGR and the revenue and pricing principles.⁵¹⁸

⁵¹⁸ The revenue and pricing principles are in s. 24 of the NGL.

The AER considers SP AusNet's proposed capex incentive mechanism is inconsistent with r. 98 of the NGR and the revenue and pricing principles. The AER does not consider the inclusion of any alternative capex incentive mechanism would be consistent with the requirements of the NGR. Therefore the AER requires SP AusNet to remove the capex incentive mechanism from its Access arrangement proposal.

7.2 SP AusNet proposal

7.2.1 Carryovers accrued in the 2008–12 access arrangement period

SP AusNet proposed a total carryover of \$23.7 million (\$2012) from the application of the incentive mechanism during the 2008–12 access arrangement period (table 7.49).

Table 7.49 SP AusNet proposed carryover from the 2008–12 access arrangement period (\$million, 2012)

	2013	2014	2015	2016	2017	Total
Opex efficiency carryover	11.6	6	5.6	-0.6	-	22.6
Capex efficiency carryover	1.5	0.7	-0.3	-0.8	-	1.1
Total	13.1	6.7	5.3	-1.4	-	23.7

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p. 195, SP AusNet PTRM.

7.2.2 Proposed incentive mechanism for the 2013–17 access arrangement period

SP AusNet proposed to include an efficiency carryover mechanism that rewards efficiency improvements in relation to operating and capital expenditure. The proposed incentive mechanism would allow SP AusNet to retain efficiency improvements for five years, irrespective of the year in which the saving is achieved.⁵¹⁹

SP AusNet proposes efficiency gains (or losses) in any year are to be calculated as follows:⁵²⁰

$$\text{Capex efficiency gain} = \text{WACC} \times (\text{Capex}_i^{\text{Forecast}} - \text{Capex}_i^{\text{Actual}})$$

where:

WACC is the pre-tax WACC applying to SP AusNet

$$\text{Opex efficiency gain} = \text{Underspending}_i - \text{Underspending}_{i-1}$$

where:

$$\text{Underspending}_i = \text{Opex}_i^{\text{Forecast}} - \text{Opex}_i^{\text{Actual}}$$

⁵¹⁹ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 205–206.

⁵²⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 207.

SP AusNet proposes to include the following benchmark adjustments for capex:⁵²¹

- low and medium pressure mains replacement benchmarks:
(actual/forecast⁵²² km replaced – benchmark km replaced) × benchmark unit rate per km
- domestic and commercial meter replacement benchmarks:
(actual/forecast⁵²³ meters replaced – benchmark meters replaced) × benchmark unit rate meter replacement
- customer connections benchmark for commercial and domestic customers:
(actual/forecast⁵²⁴ customer connections – benchmark customer connections) × benchmark unit rate per customer connection
- scope changes relating to other capex programs – SP AusNet proposes capex benchmarks be amended for changes in scope so far as this can be substantiated.

Opex benchmarks are to be adjusted for actual network growth with the output parameter of the 'rate of change' formulation to be updated for actual customer numbers and energy throughput in the manner consistent with the rate of change as determined in the final decision.⁵²⁵

7.3 Assessment approach

Under the NGR, the AER must:

- take into account the operation of the efficiency carryover mechanism approved in the 2008–12 Access arrangement and ensure the revenue calculations made for the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the efficiency carryover mechanism⁵²⁶
- decide whether the 2013–17 Access arrangement includes one or more incentive mechanisms to encourage efficiency in the provision of services by SP AusNet.⁵²⁷

In ensuring the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the efficiency carryover mechanism, the AER has calculated the carryover resulting from the application of the efficiency carryover mechanism as set out in the 2008–12 Access arrangement.

⁵²¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 207.

⁵²² Actual for years 2013–16 and updated forecast for 2017 as determined in the 2018–22 GAAR.

⁵²³ Actual for years 2013–16 and updated forecast for 2017 as determined in the 2018–22 GAAR.

⁵²⁴ Actual for years 2013–16 and updated forecast for 2017 as determined in the 2018–22 GAAR.

⁵²⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 208.

⁵²⁶ Transitional arrangements in the NGR require the AER to ensure revenue calculations made for the access arrangement period properly reflect the operation of any incentive mechanism approved under section 8.44 of the Gas Code in an earlier access arrangement period (NGR, Schedule 1, cl. 5(1)(a)).

⁵²⁷ NGR, r. 98.

In determining whether the AER should require an incentive mechanism to be included in the 2013–17 Access arrangement, the AER considered whether:

- SP AusNet's proposed incentive mechanisms for the 2013–17 access arrangement period encourage efficiency in the provision of reference services⁵²⁸
- the parameters of the proposed schemes are appropriate⁵²⁹
- the mechanisms are consistent with the RPP.

7.4 Reasons for decision

7.4.1 Carryover from the 2008–12 access arrangement period

The mechanism for the carrying over efficiency gains is set out in clause 6.4(b) of SP AusNet's 2008–12 access arrangement. The amount to be carried over is the total of the efficiency gains or losses incurred in relation to capex and opex by SP AusNet during the 2008–12 access arrangement period. How those gains and losses are to be calculated is set out in clause 6.4(a) of SP AusNet's 2008–12 Access arrangement. Clause 6.4(b)(3)(B) states the opex and capex benchmarks to calculate the carryover amounts to apply for the 2013–17 access arrangement period should be adjusted to account for differences between forecast output and actual output:

the carryover in respect of cost-related efficiency gains will be calculated in a manner that takes account of the difference between forecast and actual growth by adjusting the original benchmarks on the basis of the difference between the actual number of connections in any Calendar Year and the assumed number of connections for that year multiplied by the capital expenditure per connection and operating expenditure per connection.

The Essential Services Commission's (ESC's) final decision provides further guidance on how this should be done for opex:⁵³⁰

The Commission considers that adjustments to the operating expenditure benchmarks for growth should be made in accordance with the approach adopted in establishing the operating expenditure benchmarks. Therefore, given that the Commission has adopted a new approach for establishing the operating expenditure benchmarks for the upcoming regulatory period, it is appropriate to include an adjustment mechanism for growth that reflects this new approach.

The adjustments SP AusNet made to benchmark opex, in particular the weights SP AusNet applied to the growth factors in its calculation of the growth adjustment, were not consistent with SP AusNet's Access Arrangement for 2008–12. The AER notes, however, that it was not possible for SP AusNet to adjust the opex benchmarks using the approach used by the ESC because the required information was not publicly available. The AER obtained the information required from the Pacific Economics Group, which forecast the rate of change for the ESC.

⁵²⁸ NGR, r. 98(1); NGL, s24(3).

⁵²⁹ This is to ensure the proposed incentive mechanism provides effective incentives to encourage efficiency in the provision of reference services consistent with r. 98 of the NGR, and the RPP (s. 24 of the NGL).

⁵³⁰ ESC, *Gas access arrangement review 2008–2012: Final decision*, 7 March 2008, pp. 584–585.

The AER also found errors in the actual opex SP AusNet used to calculate the carryover. SP AusNet's actual opex included:

- unaccounted for gas expenditure
- licence fees
- non-reference services expenditure
- movements in provisions.

These should be excluded because they were not included in the benchmark opex.

As noted above, the AER is required to ensure the revenue calculations made for the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the efficiency carryover mechanism as is set out in SP AusNet's access arrangement. For these reasons, the AER recalculated the carryover amounts using the approach set out in SP AusNet's Access arrangement for 2008–12 (table 7.50).

Table 7.50 AER draft decision on SP AusNet carryover from the 2008–12 access arrangement period (\$million, 2012)

	2013	2014	2015	2016	2017	Total
Opex efficiency carryover	12.3	2.9	8.8	-0.6	-	23.4
Capex efficiency carryover	1.0	0.5	-0.2	0.5	-	0.8
Total	13.4	3.4	8.6	-1.2	-	24.2

Source: AER analysis.

7.4.2 Proposed incentive mechanism for the 2013–17 access arrangement period

The AER accepts SP AusNet's proposal to apply an incentive mechanism to opex. However, the AER identified issues with SP AusNet's proposed opex incentive mechanism that it considers require amendment to make the incentive mechanism consistent with r. 98 of the NGR and the revenue and pricing principles.

The AER does not accept SP AusNet's proposal to include an incentive mechanism applying to capex in the 2013–17 access arrangement period. The AER considers the proposed capex incentive scheme delivers an inappropriate incentive to inefficiently defer capex, which is inconsistent with an incentive mechanism that encourages efficiency and the RPP.⁵³¹

⁵³¹ NGR, r. 98; NGL, s. 24.

Opex incentive mechanism

The AER considered in detail the rationale for opex incentive mechanisms in the electricity distribution and transmission efficiency benefit sharing schemes.⁵³² The same rationale largely applies to gas service providers as well. The AER's reasons for applying an incentive mechanism to opex are summarised below.

Rationale for opex incentive mechanisms

The nature of the building block approach to regulation means a service provider is able to retain benefits from reducing expenditure longer if it does so closer to the start of the access arrangement period. Opex is generally recurrent in nature, so the AER has adopted a revealed cost approach as the basis of forecasting opex. A result of adopting this forecasting approach is that service providers have an incentive to shift expenditure into the base year used to set opex forecasts for the following access arrangement period. Applying an incentive mechanism to opex counteracts these incentives. In particular, an incentive mechanism that allows the service providers to retain the benefits of any efficiencies gained for a period of 5 years after the year in which the efficiency was made provides service providers a continuous incentive to increase efficiency. This removes the incentive to defer efficiency gains or shift expenditure into the base year.⁵³³

Efficiency carryover incentive mechanisms provide service providers a continuous incentive to reduce expenditure throughout the access arrangement period. If a service provider shifts costs into the base year to increase future allowances, it will face negative carryovers from the 'loss of efficiency' of shifting the costs into the base year. Therefore, the service provider will be no better off and has no incentive to shift costs into the base year.⁵³⁴ Providing the service provider a continuous incentive to reveal its efficient costs allows those revealed efficient costs to be used to forecast efficient levels of opex for subsequent access arrangement periods, which is in the long term interest of consumers and consistent with the national gas objective.⁵³⁵

The AER is also satisfied the inclusion of an opex incentive mechanism in SP AusNet's Access arrangement will provide SP AusNet a reasonable opportunity to recover at least its efficient costs and be consistent with the RPP.⁵³⁶ This is because the mechanism rewards efficiency gains and penalises efficiency losses. In this regard it is important to recognise the reward or penalty is set through a combination of using revealed costs to forecast subsequent opex allowances and carryover increments or decrements. For example, if SP AusNet's opex increases in the base year its opex allowance for the following access arrangement period will be higher but it will incur a negative carryover ensuring it retains the efficiency loss for 5 years after the loss being made.

⁵³² AER, *Final decision: Electricity transmission network service providers Efficiency benefit sharing scheme*, September 2007; AER, *Final decision: Electricity distribution network service providers Efficiency benefit sharing scheme*, June 2008.

⁵³³ The AER discussed the need to provide service providers with continuous incentives to reduce costs and gain efficiencies and the reasons for considering 5 years as the appropriate carryover period in AER, *Final decision: Electricity distribution network service providers Efficiency benefit sharing scheme*, June 2008.

⁵³⁴ The effects of shifting costs into the base year are modelled in AER, *Final decision: Electricity distribution network service providers Efficiency benefit sharing scheme*, June 2008, appendix B.

⁵³⁵ NGL, s. 23.

⁵³⁶ NGL, s. 24.

Consequently, how actual opex is used to inform the opex allowance for the following access arrangement period is a key factor in whether the mechanism will allow SP AusNet to retain the reward associated with efficiency gains for five years. For this to be achieved opex must be forecast based on actual expenditure in the penultimate year of the preceding access arrangement period. If external benchmarks, or a bottom up forecast, are used to set opex allowances SP AusNet would retain the reward (penalty) of efficiency improving (decreasing) initiatives for longer than five years and would in fact be rewarded (penalised) twice, once in the ex ante opex allowance, which would not reflect the efficiency saving (decrease), and a second time in the carryover increments or decrements. Consequently it is important actual expenditure in the base year is used as the basis for setting opex forecasts in the following access arrangement period.

Further, to ensure SP AusNet retains the reward associated with efficiency improving initiatives for five years it is important opex forecasts reflect the same level of efficiency as that demonstrated in the opex base year. In this regard it is reasonable to apply real cost escalation and network growth (or scale) escalation. This is because more opex will be required to produce more outputs, or pay higher inputs prices at the same level of efficiency. To ensure step changes also reflect the same level of efficiency, the AER considers step changes should only be provided for new regulatory obligations or changes in the external operating environment beyond SP AusNet's control.

Clarification of the opex incentive mechanism

The AER considers a number of clauses in the opex incentive mechanism require clarification. This is because the incentive mechanism, as it is currently drafted is ambiguous about:

- how efficiency gains are calculated for 2013
- forecast opex applicable for the purposes of calculating efficiency carryover from the 2013–17 access arrangement period
- adjustments to forecast opex for the purposes of calculating efficiency carryover from the 2013–17 access arrangement period
- whether and how to account for changes in classification of costs to opex.

The AER has set out an incentive mechanism to be included in SP AusNet's 2013–17 Access arrangement that it considers will clarify these matters and encourage efficiency in the provision of services and is consistent with the RPP.

Incentive mechanism

1. The incentive mechanism should only apply to operating expenditure.
2. The incentive mechanism provides SP AusNet a continuous incentive to find operating expenditure efficiencies through a combination of:
 - an ex ante forecast of operating expenditure in SP AusNet's Total Revenue
 - increments or decrements from the operation of this incentive mechanism that allow SP AusNet to retain efficiency gains or losses for five years.
3. The operating expenditure annual efficiency gain (or loss) for 2013 will be calculated as:

$$E_{2013} = (F_{2013} - A_{2013}) - (F_{2012} - A_{2012}) + (F_{2011} - A_{2011})$$

where:

E_{2013} is the efficiency gain in 2013

F_{2013} is the forecast opex for 2013

A_{2013} is the actual opex for 2013

F_{2012} is the forecast opex for 2012

A_{2012} is the actual opex for 2012

F_{2011} is the forecast opex for 2011

A_{2011} is the actual opex for 2011

4. The operating expenditure annual efficiency gain (or loss) for 2014 to 2017 will be calculated as:

$$E_i = (F_i - A_i) - (F_{i-1} - A_{i-1})$$

where:

E_i is the efficiency gain in year i of the access arrangement period

F_i is the forecast opex in year i of the access arrangement period

A_i is the actual opex in year i of the access arrangement period

F_{i-1} is the forecast opex in year $i-1$ of the access arrangement period

A_{i-1} is the forecast opex in year $i-1$ of the access arrangement period

5. Opex in 2017 is to be estimated using the following equation:

$$A_{2017}^* = A_{2016} + F_{2017} - F_{2016}$$

where:

A_{2017}^* is the estimate of opex for 2017

F_{2017} is the forecast opex for 2017

F_{2016} is the forecast opex for 2016

A_{2016} is the actual opex for 2016

6. For the avoidance of doubt, the operating expenditure annual efficiency gain (or loss) for 2017 will be assumed to equal zero.
7. The annual efficiency gain or loss will be added to SP AusNet's Total Revenue for five years after the year in which the efficiency gain (or loss) was achieved. If necessary, the annual efficiency gain or loss will be carried forward into the access arrangement period

commencing 1 January 2018 until it has been retained by SP AusNet for a period of five years.

8. To ensure efficiency gains or losses made in 2017 are retained for five years, opex for the access arrangement period commencing in 2018 should be forecast in a manner consistent with the estimate for opex in 2017, A_{2017}^* , in clause 5. This provides SP AusNet the same reward had the expenditure level in 2017 been known.
9. Increments or decrements from the summation of annual efficiency gains or losses calculated in accordance with the approved incentive mechanism in the Access Arrangement Period will give rise to an additional 'building block' in the calculation of the Total Revenue amounts.
10. The following costs will be excluded from the operation of the efficiency carryover mechanism:
 - a. costs associated with complying with any retailer of last resort requirements
 - b. amounts for approved Cost Pass Through Events
 - c. unaccounted for gas expenses
 - d. licence fees
 - e. debt raising costs
 - f. movements in provisions
 - g. any other activity that SP AusNet and the Regulator agree to exclude from the operation of the efficiency carryover mechanism.
11. For the avoidance of doubt, the forecast expenditure amounts that are used as the basis for measuring efficiencies are equal to the forecast operating cost for that year as shown in table X.X⁵³⁷ in SP AusNet's Access Arrangement Information, with the following exception:
 - a. the carryover of cost-related efficiency gains will be calculated in a manner that takes account of any change in the scale of the activities which form the basis of the determination of the original benchmarks. The opex benchmarks will be adjusted consistent with the way in which the benchmark was determined.
12. Where SP AusNet changes its approach to classifying costs as either capex or opex during the access arrangement period, SP AusNet will adjust the forecast opex in table X.X⁵³⁸ in SP AusNet's Access Arrangement Information so that the forecast expenditures are consistent with the capitalisation policy changes.
13. If there is a change in SP AusNet's approach to classifying costs as either capex or opex, SP AusNet must provide to the AER a detailed description of the change and a calculation of its impact on forecast and actual opex.

Table 7.51 must be added to SP AusNet's Access arrangement information to specify the forecast expenditure to be used as the basis for measuring efficiencies.

⁵³⁷ This should refer to the table in SP AusNet's *Access arrangement information* that replicates table 7.51.

⁵³⁸ This should refer to the table in SP AusNet's *Access arrangement information* that replicates table 7.51.

Table 7.51 Forecast operating expenditure for the purposes of the incentive mechanism in the 2013–17 access arrangement

	2011	2012	2013	2014	2015	2016	2017
Forecast opex	42.2	43.7	45.2	46.2	46.8	47.4	48.3

Note: Excludes debt raising costs.

Source: AER analysis.

Capex incentive mechanism

The AER has previously noted that cumulative efficiency carryover schemes applied to capex can deliver incentives to defer capex to a later access arrangement period even when it is not efficient to do so.⁵³⁹ This is because the service provider receives a return on that deferred capital twice in the following access arrangement period (in addition to the return on capital provided in the preceding period) if the deferred capex is not removed from the capex forecast:

- first in the ex ante capex allowance
- a second time in the return on the unspent capex provided by the capex incentive mechanism carryover.

The ESC considered this when it decided to continue to apply the capex incentive mechanism in its 2007 draft decision for the Victorian gas distribution networks.⁵⁴⁰ The ESC considered the nature of capex in the gas industry, and its ability to monitor volumes and unit rates better than in the electricity industry, provided it with the ability to adjust benchmarks to reflect the actual amount of capital works undertaken. With gas distribution, a large part of capex is recurrent in nature because a large proportion is ongoing projects such as replacements. The ESC considered there was scope for service providers to make efficiency gains that are achievable indefinitely into the future in such ongoing projects. This provided it with greater certainty that carryovers would not be generated due to inefficient deferral of capital expenditure.⁵⁴¹

A comparison of the actual capex spend of the Victorian gas distribution service providers against forecast capex in the 2003–07 and 2008–12 access arrangement periods suggests service providers are increasingly deferring their capex programs. These deferrals are occurring in all capex categories, including significant deferral of non-volume driven capex.

SP AusNet has earned positive capex carryovers in 2008, 2009 and 2010. The positive carryovers have been driven by significant underspending in the non-volume driven capex categories, in particular IT, SCADA and other capex. The forecast capex for 2012 and the 2013–17 access arrangement period in these categories is higher than the current benchmarks, suggesting that the underspending in these capex categories was due to

⁵³⁹ Modelling undertaken by the AER in the development of the electricity distribution EBSS demonstrates that service providers would retain significantly more than 30 per cent of the benefits of the capex deferral. This is set out in detail in AER, *Final decision: Electricity distribution network service providers Efficiency benefit sharing scheme*, June 2008, Appendix C.

⁵⁴⁰ ESC, *Gas Access Arrangement Review 2008–2012 Draft Decision*, 28 August 2007, pp. 522–524.

⁵⁴¹ ESC, *Gas Access Arrangement Review 2008–2012 Draft Decision*, 28 August 2007, pp. 523–524.

deferral. While many deferrals are efficient (by minimising the long term total cost of service provision), it can be difficult to determine whether a deferral is efficient or not and the AER considers the proposed capex incentive mechanism provides an incentive to defer some capex even when it is not efficient to do so.

In addition, the incentive to maintain service standards must also be considered. Ideally capex incentives would be balanced with an equal incentive to maintain or improve service levels. This would encourage efficiency driven capex reductions without a fall in service standards. Because service standard obligations are only loosely defined for gas distribution businesses,⁵⁴² and no service standard incentive mechanism is in place, the AER considers SP AusNet does not have a balanced incentive to maintain service levels.

For these two reasons, the AER considers SP AusNet's proposed capex incentive scheme would not provide effective incentives to promote efficient investment. The incentives to defer capex, and the lack of a balanced service standard incentive, lead to the potential for underinvestment in the pipeline and over utilisation of the pipeline. Therefore, the proposed capex incentive mechanism results in outcomes that are inconsistent with the requirements in the RPP⁵⁴³ and is inconsistent with r. 98 of the NGR. For these reasons, the AER requires SP AusNet to remove clauses 6.4(a)(3), 6.4(a)(6), 6.4(b)(2), 6.4(b)(3)(A) and 6.4(b)(3)(C) from the proposed access arrangement.

7.5 Proposed amendments

The AER requires the following revisions to make the Access arrangement proposal acceptable:

Revision 7.1: amend the Access arrangement proposal and Access arrangement information as necessary to reflect the AER's draft decision on carryover amounts from the 2008–12 access arrangement period as set out in tables 7.48 and 7.50.

Revision 7.2: delete clause 6.4 of the Access arrangement proposal and replace it with the incentive mechanism set out in section 7.4.2.

Revision 7.3: amend the Access arrangement information to include table 7.51.

⁵⁴² Under the Gas Industry Act 2001 (Victoria).

⁵⁴³ In particular, subss. 24(3)(a), (3)(c), (6) and (7) of the NGL.

8 Corporate income tax

When determining the total revenue for SP AusNet, the AER must estimate SP AusNet's cost of corporate income tax.⁵⁴⁴ SP AusNet has adopted the post-tax framework to derive its revenue requirement for the 2013–17 access arrangement period.⁵⁴⁵ Under the post-tax framework, a separate corporate income tax allowance is calculated as part of the building blocks assessment.

8.1 Draft decision

The AER approves SP AusNet's proposal to use a combination of the ESC's tax roll forward model and the AER's post-tax revenue model (PTRM) to estimate the forecast corporate income tax allowance. However, the AER does not approve SP AusNet's proposed forecast corporate income tax allowance of \$53.8 million (\$nominal)⁵⁴⁶ for the 2013–17 access arrangement period. This is mainly because of the AER's adjustments to SP AusNet's proposed opening tax asset base as at 1 January 2013 (section 8.4.1), rate of return (attachment 4) and forecast opex (attachment 6).

The AER approves SP AusNet's proposed method to establish the opening tax asset base as at 1 January 2013. However, the AER does not approve some of SP AusNet's proposed tax additions during the 2008–12 access arrangement period, and therefore does not approve SP AusNet's proposed opening tax asset base as at 1 January 2013. The AER's adjustments to the tax additions reduce SP AusNet's proposed opening tax asset base as at 1 January 2013 by approximately \$12.8 million (\$nominal), or 2.6 per cent.

The AER accepts SP AusNet's proposal to maintain separate tax groups for tax depreciation purposes. The disaggregation of tax groups reflects the different historical tax treatment applied to SP AusNet's assets. Unlike the capital base, the tax asset base reflects requirements under tax law. These requirements change over time but assets should be rolled forward in line with prevailing tax law at the time the capex enters the tax asset base. Maintaining disaggregated tax groups allows for this.

The AER approves most of SP AusNet's proposed standard tax asset lives for group 7 tax assets associated with forecast capex for the 2013–17 access arrangement period. These proposed lives are consistent with the ESC's approved standard tax asset lives for group 6 tax assets in the 2008–12 access arrangement period. The AER also accepts SP AusNet's proposed change to its tax depreciation approach from the declining balance method (with the exception of the 'Land & buildings' and 'Repairs' asset classes) to the straight-line method for its group 7 tax assets. Both the declining balance and straight-line methods are permissible under the tax law.

⁵⁴⁴ NGR, r. 76(c).

⁵⁴⁵ SP AusNet, *Post tax revenue model*, March 2012.

⁵⁴⁶ All dollar amounts are in nominal dollar terms in this attachment because corporate income tax is an output of the post-tax revenue model (PTRM). The output of the PTRM such as the corporate income 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 real dollar terms.

The AER's adjustments result in an estimated cost of corporate income tax allowance of \$23.3 million (\$nominal) for SP AusNet as shown in table 8.52. Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 25.3 per cent for this draft decision.

Table 8.52 AER's draft decision on corporate income tax allowance for SP AusNet (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	2.1	5.1	6.5	7.9	9.5	31.0
Less: value of imputation credits	0.5	1.3	1.6	2.0	2.4	7.8
Net corporate income tax allowance	1.6	3.9	4.9	5.9	7.1	23.3

Source: AER analysis.

8.2 SP AusNet's proposal

For the 2013–17 access arrangement period, SP AusNet proposed a total corporate income tax allowance of \$53.8 million (\$nominal) as set out in table 8.53.

SP AusNet used a combination of the ESC's tax roll forward model and the AER's PTRM to calculate the corporate income tax allowance for each year of the 2013–17 access arrangement period.⁵⁴⁷ In estimating its corporate income tax allowance, SP AusNet used:⁵⁴⁸

- an opening tax asset base of \$500.4 million (\$nominal) as at 1 January 2013
- 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 tax depreciation approaches set out in its proposed PTRM.

Table 8.53 SP AusNet's proposed corporate income tax allowance (\$million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	11.7	14.5	14.0	15.4	16.1	71.7
Less: value of imputation credits	2.9	3.6	3.5	3.8	4.0	17.9
Net corporate income tax allowance	8.8	10.9	10.5	11.5	12.1	53.8

Source: SP AusNet, *PTRM*, March 2012.

⁵⁴⁷ SP AusNet, *Post tax revenue model*, March 2012.

⁵⁴⁸ SP AusNet, *Post tax revenue model*, March 2012; and SP AusNet, *2013–2017 Gas access arrangement review, Access arrangement information*, March 2012, p. 188.

Consistent with its earlier access arrangements, SP AusNet maintained separate tax groups to allow for different standard tax asset lives to be applied to capex incurred in a particular access arrangement period. These standard tax asset lives reflect the tax law applicable at the time. SP AusNet did not propose any remaining tax asset lives at an asset class level, rather it calculated depreciation in separate tax groups broken down to reflect any changes in tax treatment over time.

For the 2013–17 access arrangement period, SP AusNet proposed a new tax group (group 7) for capex to be incurred in 2013–17. SP AusNet proposed changing its tax depreciation approach from the declining balance method to straight-line method for most of the group 7 tax assets. This change is shown in table 8.54.

Table 8.54 SP AusNet’s proposed tax depreciation approaches

Tax asset class	Group 6 (2008 to 2012 capex)	Group 7 (proposed 2013 to 2017 capex)
Mains and services	Declining balance	Straight-line
Meters domestic	Declining balance	Straight-line
Meters industrial & commercial	Declining balance	Straight-line
Land & buildings	Straight line	Straight-line
Other assets	Declining balance	Straight-line
Repairs	Fully deductible	Straight-line

Source: SP AusNet, *PTRM*, March 2012.

8.3 Assessment approach

The AER's approach to calculating SP AusNet's cost of corporate income tax is set out in the PTRM and begins with an estimate of taxable income that would be earned by an efficient company operating SP AusNet's business. The AER has modelled SP AusNet's tax expenses over the 2013–17 access arrangement period. Interest tax expense is estimated using a benchmark 60 per cent gearing, rather than SP AusNet's actual gearing. Tax depreciation is calculated using a separate tax asset base. All tax expenses (including other expenses such as operating expenditure) are offset against the service provider's forecast revenue to estimate the taxable income. The statutory income tax rate of 30 per cent is then applied to the estimated taxable income to arrive at a notional amount of tax payable. The AER then applies a discount to that notional amount of tax payable to account for the assumed utilisation of imputation credits (gamma), which has a value of 0.25. This amount is then included as a separate building block in determining SP AusNet's total revenue.⁵⁴⁹

The corporate income tax allowance is an output of the AER's PTRM. The AER therefore has assessed SP AusNet's proposed corporate income tax allowance by analysing SP AusNet's proposed inputs to the PTRM for calculating the tax allowance. These inputs include:

⁵⁴⁹ NGR, r. 76(c).

- the opening tax asset base as at 1 January 2013
- the tax depreciation approaches for each asset class
- the standard tax asset life for each asset class
- the income tax rate
- the value of gamma.

In assessing SP AusNet's proposal, the AER has had regard to the NGO and the revenue and pricing principles.⁵⁵⁰

The AER considers that the roll forward of the opening tax asset base to 1 January 2013 should be based on the ESC's approved opening tax asset base as at 1 January 2007 and SP AusNet's actual capex in earlier access arrangement periods. The value of the actual capex used for rolling forward the tax asset base is subject to the AER's assessment of these values as discussed in attachment 3.⁵⁵¹

The AER assesses SP AusNet's proposed standard tax asset lives, where necessary, against those prescribed by the Commissioner for Taxation in Tax Ruling 2012/2. The AER also assesses SP AusNet's proposed tax depreciation approaches and standard tax asset lives against the ESC's approved tax depreciation approaches and standard tax asset lives in the earlier access arrangement period where necessary.

Given SP AusNet proposed to use the declining balance tax depreciation approach for most of the group 1–6 tax assets,⁵⁵² these tax asset classes do not require remaining tax asset lives.⁵⁵³

8.4 Reasons for decision

The AER's draft decision on SP AusNet's corporate income tax allowance is \$23.3 million (\$nominal), which is a reduction of \$30.5 million (\$nominal) or 56.7 per cent of SP AusNet's proposal. The AER accepts most of SP AusNet's methods for calculating the corporate income tax allowance. However, the AER adjusted several of SP AusNet's proposed inputs to the PTRM for calculating the corporate income tax allowance, which include:

⁵⁵⁰ NGL, s 28; NGR r. 100(1). The NGO is set out in NGL, s. 23. The revenue and pricing principles are set out in NGL, s. 24.

⁵⁵¹ The asset classes differ between the capital base roll forward and the tax asset base roll forward. However, the total values of annual capex in the earlier access arrangement period will be consistent.

⁵⁵² In the earlier access arrangement, the ESC approved the declining balance method be used as the tax depreciation approach for most of the group 1–6 tax assets with the exception of 'Land & buildings' and 'Repairs' asset classes.

⁵⁵³ The AER's preferred method to determine the remaining tax asset lives is the weighted average method. The AER considers the weighted average method provides a better reflection of the mix of assets within an asset class and the effective life of the asset class. The weighted average method involves weighting the remaining life of each capital stream within an asset class (that is, the opening tax capital value and the capital expenditures for each year) by the closing tax capital value of that capital stream as a proportion of the total closing tax capital value of the asset class as a whole. The resulting individual values for each capital stream are then added together to obtain the overall weighted average remaining life of the asset class.

- the opening tax asset base as at 1 January 2013
- the tax depreciation approaches for the 'Repairs' and 'Land & buildings' asset classes in group 7 tax assets
- splitting the 'Land & buildings' asset class into two separate asset classes of 'Land' and 'Buildings'.
- In addition, there are various other changes to the building block components in this draft decision that impact forecast revenues. These will consequently affect the forecast corporate income tax allowance.

8.4.1 Opening tax asset base as at 1 January 2013

The AER accepts most of SP AusNet's approaches to determine the opening tax asset base as at 1 January 2013. In particular, the AER accepts SP AusNet's proposal to use an opening tax asset base as at 1 January 2007 of \$326.4 million (\$nominal). The ESC approved this amount in its decision for the 2008–12 access arrangement period.

However, the AER does not approve aspects of the opening tax asset base. Specifically, the AER has amended:

- tax additions from 2007–12
- the 'Land & buildings' asset class by splitting the asset class into two separate asset classes of 'Land' and 'Buildings'
- minor formulae errors in the proposed tax roll forward model.

The AER considers that SP AusNet's proposal without these changes does not represent an estimate of the tax asset base that is the best possible in the circumstances, as required by the NGR.⁵⁵⁴

Tax additions

The AER does not approve SP AusNet's proposed tax additions for 2007–12. The AER has amended the tax additions to be consistent with the AER's draft decision on the roll forward of the capital base (attachment 2). Because SP AusNet's historical tax asset classes differ from its capital base asset classes, the AER has estimated these allocations to ensure total capital base additions for each year are fully allocated to the tax asset base. The AER's adjustment to the tax additions represents a reduction of approximately \$15 million (\$nominal) or 3.4 per cent of SP AusNet's proposed tax additions for 2007–12. The AER's approved tax additions for 2007–12 are set out in table 8.55.

⁵⁵⁴ NGR, r. 74(2)(b).

Table 8.55 AER's draft decision on tax additions for 2007–2012 (\$million, nominal)

Tax asset class	2007 gas extension ^a	2007	2008	2009	2010	2011	2012
Mains and services	12.7	45.4	59.2	57.9	60.7	69.6	58.7
Meters (group 5)	0.1	3.0	n/a	n/a	n/a	n/a	n/a
Meters domestic (group 6)	n/a	n/a	4.7	1.5	1.8	2.1	8.7
Meters industrial & commercial (group 6)	n/a	n/a	0.6	0.4	0.2	0.5	2.8
Land & buildings	–	–	–	–	–	–	–
Other assets	–	3.1	2.1	10.8	9.5	10.6	5.4
Repairs	–	–	–	–	–	–	–
Total	12.9	51.5	66.6	70.5	72.2	82.8	75.6

Source: AER analysis.

(a) These tax additions for gas extensions are as approved by the ESC for the 2008–12 access arrangement period.

n/a Not applicable

The AER considers that these amended tax additions will result in the best possible estimate of SP AusNet's tax asset base and therefore the corporate income tax allowance for the 2013–17 access arrangement period, as required by the NGR.⁵⁵⁵

'Land & buildings' asset class

The AER does not approve SP AusNet's proposal to continue using the 'Land & buildings' asset class in the opening tax asset base as at 1 January 2013 for tax depreciation purposes in the 2013–17 access arrangement period. However, consistent with the ESC's decision for rolling forward the tax asset base to 2012, the AER does approve SP AusNet's proposal to maintain the single 'Land & buildings' asset class up to the closing tax asset base for 2012. From 2013, due to land being a non depreciable asset, the AER considers that the 'Land & buildings' asset class should then be split into separate 'Land' and 'Buildings' asset classes. Neither SP AusNet nor the AER has sufficient information to accurately allocate the residual asset value from 2013. However, SP AusNet has submitted that it considers its current land holdings to be immaterial. On this basis, the AER has allocated all of the residual value into the 'Buildings' asset class so it can continue to depreciate.

In recent decisions, the AER has consistently separated land from other asset classes, and not assigned a standard tax asset life to land (assigned a term of 'n/a' for modelling purposes) in the tax asset roll forward model and the PTRM.⁵⁵⁶ This is because land is a non-

⁵⁵⁵ NGR, r. 74(2).

⁵⁵⁶ AER, *Roma to Brisbane Pipeline draft decision*, April 2012, p. 22; AER, *Aurora Energy draft distribution determination*, November 2011, p. 262.

depreciable asset under the Australian taxation law, and does not diminish in its useful life.⁵⁵⁷ The *Income Tax Assessment Act* (ITAA) 1997 excludes land from the definition of a 'depreciating asset'.⁵⁵⁸

The AER sent an information request to SP AusNet to inquire about a possible split between 'Land' and 'Buildings' in the opening tax asset base value as at 1 January 2013.⁵⁵⁹ In response, SP AusNet stated that it did not have enough information that would allow a split of the opening tax asset base value of the 'Land & buildings' asset class.⁵⁶⁰ It submitted:

SP AusNet's RAB was established as part of the privatisation process, with the existing asset category 'land & buildings' in its current aggregated form. No information was provided at the time that allowed a split between land and buildings either in documentation or models from that period. Subsequently, there has been no capital expenditure on land since privatisation.

Therefore, SP AusNet cannot identify what proportion of 'land & buildings' value is land.

SP AusNet does not consider current land holdings are likely to be material, reasoning that probably drove the initial aggregation at privatisation. Nonetheless, SP AusNet agrees that going forward it would be appropriate to assign any new land purchases to a new asset class 'Land' and treat it as a non-depreciating asset.

Based on SP AusNet's response, the AER considers that it is reasonable for SP AusNet to maintain 'Land & buildings' as a single asset class to roll forward the tax asset base to the end of 2012. However, the AER agrees that separate asset classes should apply for the opening tax asset base at 1 January 2013 and for any future tax additions due to the different tax depreciation laws applicable to land and buildings.

Although SP AusNet did not forecast any capex for the 'Land & buildings' asset class, the AER has split this into 'Land' and 'Buildings', and assigned relevant standard tax asset lives for these two new asset classes. This is discussed further below in section 8.4.3.

The AER's draft decision on SP AusNet's tax asset base roll forward for the 2008–12 access arrangement period is set out in table 8.56.

Table 8.56 AER's draft decision on SP AusNet's tax asset base roll forward for the 2008–12 access arrangement period (\$million, nominal)

	2007	2008	2009	2010	2011	2012
Opening tax asset base	329.1	352.9	377.8	404.6	430.8	464.7
Tax additions	64.3	66.6	70.5	72.2	82.8	75.6
Tax depreciation	40.5	41.7	43.7	46.0	49.0	52.8
Closing tax asset base	352.9	377.8	404.6	430.8	464.7	487.5

Source: AER analysis.

⁵⁵⁷ Australian Accounting Standard Board, *Accounting standard AASB1021: Depreciation*, August 1997, pp. 10–11.

⁵⁵⁸ ITAA 1997, s. 40-30.

⁵⁵⁹ AER, *AER information request 12*, 21 June 2012.

⁵⁶⁰ SP AusNet, *Response to AER information request 12*, 25 June 2012.

8.4.2 Tax depreciation approaches

The AER accepts SP AusNet's proposal to maintain separate tax groups for tax depreciation purposes. The AER approves SP AusNet's proposal to continue applying the same tax depreciation approaches to group 1–6 tax assets as allowed by the ESC in the earlier access arrangements.

The AER approves SP AusNet's proposed change in tax depreciation approach from declining balance to straight-line for most group 7 tax assets with the exception of the 'Land & buildings' and 'Repairs' asset classes. This is because the ITAA allows both the declining balance method and straight-line method to be used to depreciate new tax additions for tax purposes.⁵⁶¹ The straight-line method is also consistent with the tax depreciation approach approved by the AER in recent decisions.⁵⁶²

As land is a non-depreciating asset, the AER has split the 'Land & buildings' asset class into separate asset classes of 'Land' and 'Buildings' from 1 January 2013. Consistent with the earlier access arrangement, the AER considers the 'Buildings' asset class should be depreciated using the straight-line method. However, the AER has not assigned a tax depreciation method for the 'Land' asset class due to the non-depreciating nature of land (assigned a term of 'n/a' for modelling purposes).

SP AusNet did not forecast any capex for the 'Repairs' asset class in the 2013–17 access arrangement period. Nonetheless, SP AusNet's proposed PTRM specifies the 'Repairs' asset class is to be depreciated using a straight-line method for tax purposes. The AER does not accept that the 'Repairs' asset class should be depreciated using a straight-line method. This is because repairs are an allowable deduction under provisions of the ITAA 1997.⁵⁶³ Therefore, consistent with the approach applying to group 6 tax assets, the AER has corrected the tax depreciation approach for the 'Repairs' asset class to be fully deductible.

The AER's draft decision on SP AusNet's tax depreciation approaches to group 7 tax assets associated with forecast capex for the 2013–17 access arrangement period is set out in table 8.57.

⁵⁶¹ ITAA 1997, s. 40-65.

⁵⁶² AER, *Roma to Brisbane Pipeline draft decision*, April 2012, p. 19.

⁵⁶³ ITAA 1997, s. 25-10.

Table 8.57 AER's draft decision on SP AusNet's tax depreciation approaches for group 7 tax assets

Tax asset class	Group 7 (2013–17 capex)
Mains and services	Straight-line
Meters domestic	Straight-line
Meters industrial & commercial	Straight-line
Land ^a	n/a
Buildings ^b	Straight-line
Other assets	Straight-line
Repairs	Fully deductible

Source: AER analysis.

- (a) This asset class is for any actual capex that may be incurred for 2013–17.
- (b) This asset class is for depreciating the residual value from 'Land & buildings' as at 1 January 2013, as well as any actual capex that may be incurred for 2013–17.
- n/a Not applicable.

8.4.3 Standard tax asset lives

With the exception of the 'Land & buildings' asset class, the AER approves SP AusNet's proposed standard tax asset lives for group 7 tax assets for the 2013–17 access arrangement period. This is because most of these proposed lives are consistent with those prescribed by the Commissioner for taxation in Tax Ruling 2012/2 and the ESC's approved standard tax asset lives for the 2008–12 access arrangement period.

SP AusNet proposed a standard tax asset life of 40 years for the 'Land & buildings' for the purposes of calculating tax depreciation for the 2013–17 access arrangement period.⁵⁶⁴ This 40 year life is consistent with the ESC's approved standard tax asset life for SP AusNet's 'Land & buildings' asset class in the earlier access arrangement.⁵⁶⁵

As discussed in section 8.4.1, SP AusNet has agreed with the AER that from 1 January 2013, land should be separated to form a new asset class and be treated as a non-depreciating asset. Although SP AusNet did not forecast any capex for the 'Land & buildings' asset class for the 2013–17 access arrangement period, the AER has split this asset class into two separate asset classes of 'Land' and 'Buildings'. The AER considers that:

- the 'Buildings' asset class should be assigned a standard tax asset life of 40 years
- the 'Land' asset class should not be assigned a standard tax asset life reflecting the non-depreciating nature of the asset ('n/a' is assigned for tax modelling purposes in SP AusNet's PTRM).

⁵⁶⁴ SP AusNet, *PTRM*, March 2012.

⁵⁶⁵ ESC, *SP AusNet GAAR 2008 revenue model further final decision*, 2008.

The AER's approved standard tax asset lives for SP AusNet's group 7 tax assets for the 2013–17 access arrangement period are set out in table 8.58.

Table 8.58 AER's draft decision on SP AusNet's standard tax asset lives for group 7 tax assets

Tax asset class	Group 7 (2013–17 capex)
Mains and services	20
Meters domestic	4
Meters industrial & commercial	15
Land	n/a
Buildings	40
Other assets	10
Repairs	Fully deductible ^a

Source: AER analysis.

n/a Not applicable.

(a) 'Repairs' is a deduction under s. 25-10 of the ITAA. For modelling purposes, the tax depreciation rate used to depreciate expenditure associated with repairs is 100 per cent.

8.4.4 Remaining tax asset life

SP AusNet did not propose any remaining tax asset lives at the asset class level. This is because tax depreciation for an individual asset class is calculated in the separate tax groups based on the historical tax approach adopted for each group. The disaggregation of tax groups in SP AusNet's tax asset base roll forward is in contrast to the AER's required change to SP AusNet's modelling of its regulatory depreciation for its capital base to aggregate individual capex amounts to asset classes. Remaining tax asset lives for the majority of SP AusNet's assets in its tax groups are also not necessary. This is because the tax depreciation approach used for those assets in the earlier access arrangement periods is the declining balance method, rather than the straight-line method. Therefore, the AER considers that remaining tax asset lives at an asset class level are not necessary for the purposes of calculating SP AusNet's tax depreciation.

8.4.5 Utilisation of imputation credits (gamma)

Under the Australian imputation tax system, domestic investors receive a credit for tax paid at the company level (an 'imputation credit' or gamma) that offsets part or all of their personal income tax liabilities. For eligible shareholders, imputation credits represent a benefit from the investment in addition to any cash dividend or capital gains received. As part of the post-tax nominal framework, the value of gamma must be applied to calculate the net income tax allowance for the 2013–17 access arrangement period.

The AER approves SP AusNet's proposal to adopt the value of 0.25 for gamma. The proposed gamma value is consistent with the findings by the Australian Competition Tribunal in its review of the AER's 2010 distribution determinations for Energex, Ergon Energy and ETSA Utilities.⁵⁶⁶ The AER also adopted the value of 0.25 for gamma in its recent final decision for the Roma to Brisbane gas pipeline access arrangement.⁵⁶⁷ There is no new evidence before the AER to cause it to vary from the findings of the Tribunal.

8.5 Revisions

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

Revision 8.1: Make all necessary amendments to reflect the AER's draft decision on the proposed corporate income tax allowance for the 2013–17 access arrangement period, as set out in table 8.52.

Revision 8.2: Make all necessary amendments to reflect the AER's draft decision on tax additions for 2007–2012, as set out in table 8.55.

Revision 8.3: Make all necessary amendments to reflect the AER's draft decision on the tax depreciation approach for group 7 tax assets associated with forecast capex for the 2013–17 access arrangement period, as set out in table 8.57.

Revision 8.4: Make all necessary amendments to reflect the AER's draft decision on standard tax asset lives, as set out in table 8.58.

⁵⁶⁶ Australian Competition Tribunal, *Application by Energex Limited (Gamma) (No. 5)[2011] ACompT 9*, 12 May 2011, paragraph 42.

⁵⁶⁷ AER, *Roma to Brisbane Pipeline final decision*, August 2012, p. 20.

9 Demand

This attachment sets out the AER's assessment of the demand forecasts proposed by SP AusNet for the 2013–17 access arrangement period. Demand is an important input into the derivation of SP AusNet's reference tariffs. It also affects opex and capex linked to network growth.

9.1 Draft decision

The AER does not approve the proposed demand forecasts as they do not comply with r. 74(2) of the NGR. In applying its forecasting methodology, SP AusNet used some assumptions and data sets that have biased and distorted the modelling results. In particular:

- estimates of Effective Degree Day (EDD) used by SP AusNet to weather normalise historic gas consumption have biased the demand forecasts
- the growth rate of new dwellings used to forecast residential customer numbers in Central and West regions are outdated.

The AER considers that SP AusNet's demand forecasts are not arrived at on a reasonable basis and do not represent the best forecasts possible in the circumstances.⁵⁶⁸ The reasons for the AER's decision are discussed below.

9.2 SP AusNet proposal

SP AusNet engaged the Centre for International Economics (CIE) to prepare its demand forecasts.

CIE used a four step approach to produce SP AusNet's proposed demand forecasts:⁵⁶⁹

- Identify fundamental drivers of demand and establish the strength of their effects on demand
- Source projections for these drivers of demand, using publicly available estimates
- Generate the demand forecasts by feeding the projections of the key drivers of demand (sourced in step 2) through the models constructed in step 1
- Review the forecasts using a top-down approach. This involves comparing forecasts against correlated variables, such as population and economic growth forecasts for the regions under consideration.

⁵⁶⁸ NGR, r. 74(2).

⁵⁶⁹ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 15–16.

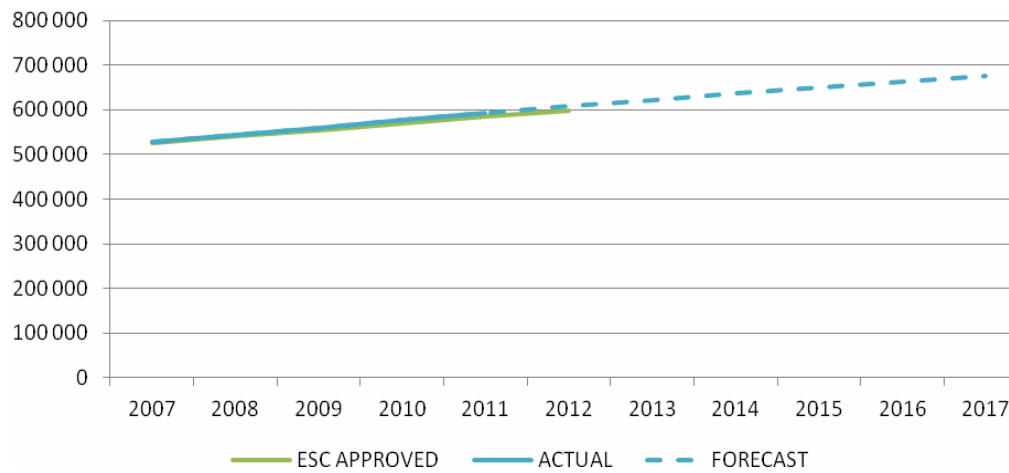
CIE considered the following drivers in preparing SP AusNet's proposed demand forecasts:
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- weather – colder climate leads to greater gas demand
- catchment area population growth – more residents and businesses will result in more connections and hence more customers
- SP AusNet network expansion – as the network is expanded, more customers have the option of connecting
- connection cohort – more recent connections tend to be more energy efficient, in part due to more stringent building standards, thereby lessening average gas usage
- type of dwelling – units consume less gas than houses
- government policies
 - policies related to construction standards and building design have a significant impact on demand. As buildings become more energy efficient, their gas usage (if connected to the network) is lower
 - a variety of Federal and State-level policies impacting gas usage
- type of economic activity undertaken by commercial and industrial customers – whether customers are in expanding or contracting economic sectors will affect their gas demand
- wholesale price of gas – higher wholesale prices will curtail gas demand
- price of substitutes – such as electricity.

Figure 9.1 to Figure 9.3 illustrate the proposed demand forecasts.

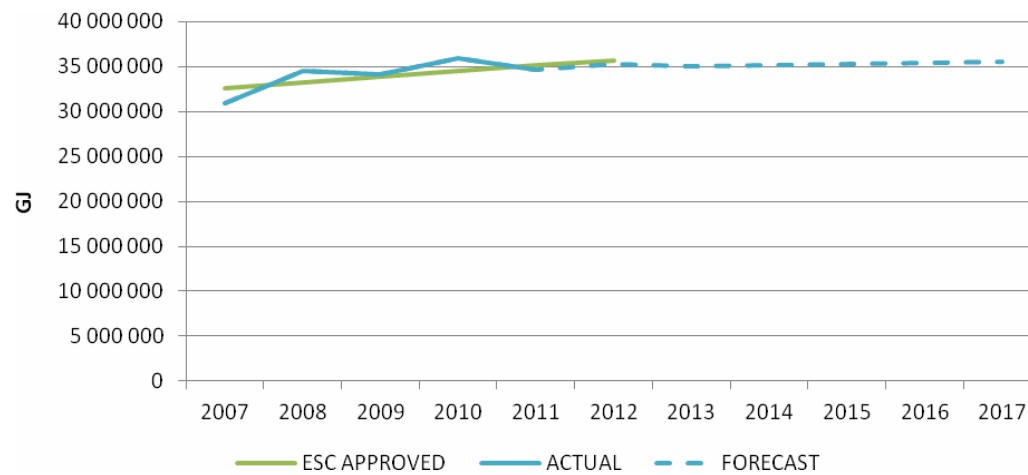
⁵⁷⁰ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 15–16.

Figure 9.1 Tariff V residential and non-residential customer numbers, ESC approved, actual and forecast 2007 to 2017



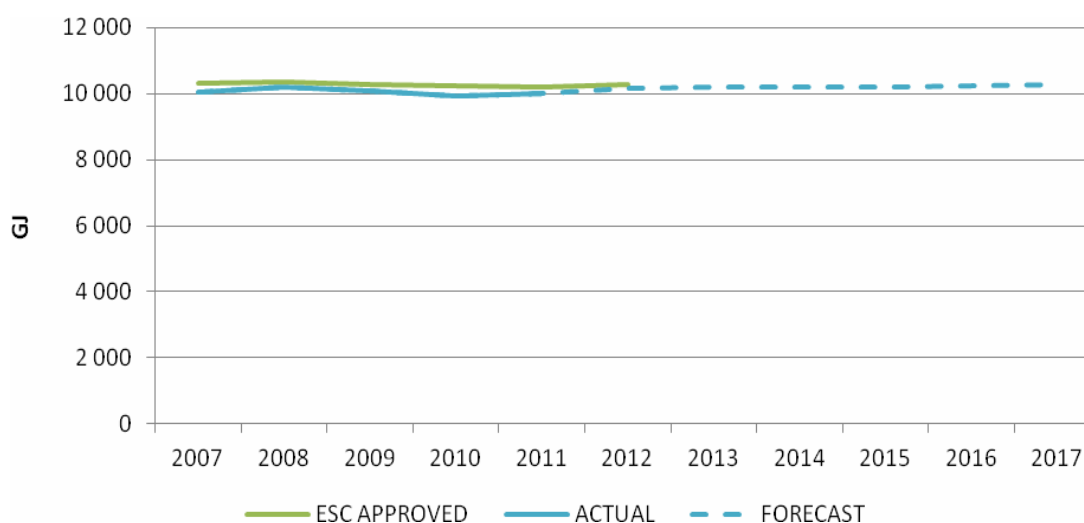
Source: SP AusNet, *Access arrangement information*, 30 March 2012, and SP AusNet *Regulatory Information Notice*; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision*, 7 March 2008 Chapter 11

Figure 9.2 SP AusNet–Tariff V residential and non-residential consumption, ESC approved, actual and forecast 2007 to 2017



Source: SP AusNet, *Access arrangement information*, 30 March 2012, and SP AusNet *Regulatory Information Notice*; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision*, 7 March 2008 Chapter 11

Figure 9.3 SP AusNet–Tariff D maximum hourly quantity (MHQ), actual and forecast 2007 to 2017



Source: SP AusNet, *Access arrangement information*, 30 March 2012, and SP AusNet *Regulatory Information Notice*; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision*, 7 March 2008 Chapter 11

9.3 AER approach

The NGR require a full access arrangement proposal for a distribution pipeline to include usage of the pipeline over the earlier access arrangement period showing:

- minimum, maximum and average demand; and customer numbers in total and by tariff class⁵⁷¹
- to the extent that it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.⁵⁷²

In making a decision to approve or not to approve an access arrangement, the AER must be satisfied that forecasts used in setting reference tariffs:⁵⁷³

- are arrived at on a reasonable basis
- represent the best forecast or estimate possible in the circumstances.

The AER considers that there are two important considerations in assessing whether demand forecasts are arrived at on a reasonable basis and whether they represent the best forecasts possible under the circumstances.⁵⁷⁴ These are:

⁵⁷¹ NGR, r. 72(1)(a)(iii).

⁵⁷² NGR, r. 72(1)(d).

⁵⁷³ NGR, r. 74(2).

⁵⁷⁴ NGR, r. 74(2).

- the appropriateness of the forecasting methodology – this involves consideration of how the demand forecast has been developed and whether or not all relevant factors have been taken into account.
- the application of the forecasting methodology – this involves consideration of the accuracy of data and assumptions on each of the input parameters.

To determine whether SP AusNet's proposed demand forecasts are the best possible forecasts given the circumstances, the AER reviewed the data used to implement the forecasting methodology. In doing this, the AER had regard to other broader trends of demand forecasts. This includes recent trends in gas consumption and peak demand relative to expectations at the time the forecasts for the 2008–12 access arrangement were made. For this purpose, the AER compared actual system performance (gas delivery and peak demand by customer class) during the 2008–12 access arrangement period with forecast demand for the 2008–12 access arrangement period.

The AER engaged ACIL Tasman (ACIL) to advise on SP AusNet's demand forecasts, and to assist the AER to develop alternative demand forecasts where the AER is not satisfied that forecasts comply with the requirements of the NGR.

In making its draft decision, the AER relied on:

- information provided by SP AusNet as part of its proposed access arrangement; specifically, SP AusNet's consultant report on demand forecast, demand forecast spreadsheets, access arrangement information, the regulatory information notice (RIN) pro forma
- additional information provided by SP AusNet in response to the AER's information requests
- a report provided by ACIL⁵⁷⁵
- public submissions received in the course of consulting on the access arrangement proposal.⁵⁷⁶

9.4 Reasons for draft decision

The AER approves SP AusNet's forecasting methodology as a reasonable basis for determining its forecasts. However, the AER does not approve the proposed demand forecasts. In applying its forecasting methodology, SP AusNet used some assumptions and data that have biased the modelling results. In particular:

- estimates of Effective Degree Day (EDD) used by SP AusNet to weather normalise historic gas consumption have biased the demand forecasts

⁵⁷⁵ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012.

⁵⁷⁶ Energy Users Coalition of Victoria, *Submission to AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012.

- the growth rate of new dwellings used to forecasts residential customer numbers in Central and West regions are outdated.

The AER considers that SP AusNet's demand forecasts are not arrived at on a reasonable basis and do not represent the best forecasts possible in the circumstances.⁵⁷⁷ This section sets out the reasons for the AER's decision.

9.4.1 Minimum, maximum and average demand

Under the NGR, SP AusNet's access arrangement information must include minimum, maximum and average demand for the earlier access arrangement.⁵⁷⁸ The AER considers that the information contained within the AAI and the RIN pro forma satisfy the requirement of r. 72(1)(a)(iii)(A) of the NGR. The AER also considers that the total customer numbers as shown in the access arrangement information and the breakdown by tariff class as shown in the RIN pro forma satisfy the requirement of r. 72(1)(a)(iii)(B) of the NGR.

9.4.2 Forecast pipeline capacity and utilisation

Rule 72(1)(d) of the NGR requires that, to the extent practicable, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period. SP AusNet did not provide information on pipeline capacity and utilisation. The AER understands that a distribution network is a meshed network made up of interconnected pipes, and there are a number of practical considerations governing why the calculation of utilisation is not straightforward.

9.4.3 Forecasting methodology

SP AusNet applied a comprehensive and statistically rigorous approach to develop its proposed demand forecasts. The approach establishes the relationship between demand and its key drivers for each tariff class. The AER considers that SP AusNet's consultant (CIE) has been transparent in setting out its methods and assumptions. The AER's consultant (ACIL) also confirmed this view.⁵⁷⁹

The AER reviewed each of the four steps of CIE's forecast methodology. It identified a number of methodological issues that have the potential to introduce bias and distortions to the modelling results. ACIL also identified some weakness in SP AusNet's forecast methodology. The key issues identified by the AER and ACIL include:

- the absence of dynamics in the estimation
- endogenous variables among explanatory variables
- not accounting for non-linearity in the forecasting methodology
- the potential for omission of variables affecting demand, which could explain the low coefficients of determination (R square).

⁵⁷⁷ NGR, r. 74(2).

⁵⁷⁸ NGR, r. 72(1)(a)(iii)(A).

⁵⁷⁹ These issues are discussed in detail in: ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 3-4.

ACIL reviewed each of these issues to determine how they could be addressed and whether addressing them is likely to improve SP AusNet's forecasting methodology.⁵⁸⁰ ACIL stated that it is unclear whether further effort directed to improving the model is likely to produce significantly better or more reliable forecasts.⁵⁸¹

The AER understands that the relationship between the demand for gas and its key drivers is complex. The combination of this complexity and data issues may have limited the explanatory power of forecasting models.⁵⁸² The AER considers that an attempt to improve the model (in terms of either the range of explanatory variables included or the estimation of demand coefficients) is unlikely to result in significantly better or more reliable forecasts. In this context, and given SP AusNet's transparency in relation to its approach, the AER accepts that the methodology used to forecast the proposed demand is arrived at on a reasonable basis.

9.4.4 Application of the forecast methodology

The AER considers that the proposed demand forecasts are not the best forecasts possible in the circumstances.⁵⁸³ In applying its forecasting methodology, SP AusNet used some assumptions and data that have biased and distorted the modelling results. This section outlines the AER's reasons for its conclusion that the inputs and assumptions used by SP AusNet result in forecasts which are not consistent with r. 74(2) of the NGR.

Weather normalization of historical data

The weather has a significant effect on the demand for gas. There is a strong relationship between gas demand and climate. Lower than normal temperatures increase gas demand for residential heating. Given the strong relationship between gas demand and the weather, the AER recognises the need to adjust actual gas consumption to ensure that one-off events do not unduly bias demand forecasts.

SP AusNet used measures of annual effective degree days (EDD) derived by the CSIRO to normalise historic gas consumption data.⁵⁸⁴ The CSIRO's analysis reveals a warming trend over the past 60 years for Victoria.⁵⁸⁵ SP AusNet accounted for this warming trend by assuming that 'normal' weather is reflected by the CSIRO's medium anthropogenic global warming projection. This assumption implies that there is a 50 per cent probability for 'normal' weather conditions to be exceeded between 2005 and 2010.⁵⁸⁶

⁵⁸⁰ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, s. 4.

⁵⁸¹ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 4.

⁵⁸² ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 4.

⁵⁸³ NGR, r. 74(2)(b).

⁵⁸⁴ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 43.

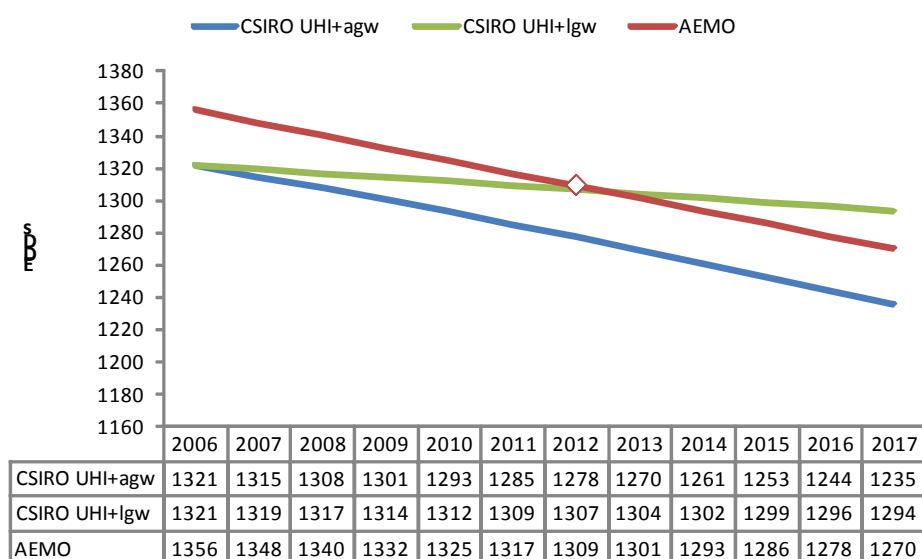
⁵⁸⁵ CSIRO, *2013-2017 Gas Access Arrangement Review – Access Arrangement Information Appendix 4C CSIRO–Projected changes in temperature and heating degree-days for Melbourne and Victoria, 2008-2012*, 30 March 2012, p. vii.

⁵⁸⁶ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 27.

ACIL reviewed SP AusNet's approach to weather normalisation by assessing the data used and the assumptions made. ACIL noted that the key issue with SP AusNet's approach related to the assumption about normal weather between 2005 and the 2011. ACIL identified that SP AusNet's forecasts are based on a projection of EDD between 2005 and 2011. ACIL stated that this approach is unusual and that a more appropriate approach would be to base an assumption about normal weather conditions on historical data.⁵⁸⁷ Such historical data has been published by AEMO following its 2012 review of weather standards for gas forecasting.⁵⁸⁸

In its review of SP AusNet's proposed demand forecasts, ACIL compared CSIRO's EDD and AEMO's EDD. CSIRO data cover the period 1950 to 2011, of which data points between 2005 and 2011 are based on a projection. AEMO data cover the period 1970 to 2011 – all data points are based on actual observations.⁵⁸⁹ ACIL found that the CSIRO's projection results in a higher EDD value relative to the AEMO's EDD. Figure 9.4 shows that AEMO's trend-projected annual EDD standard for calendar year 2012 is 1309. This is 31 EDD higher than the value based on the CSIRO Urban Heating Island (UHI) effect plus medium anthropogenic global warming.⁵⁹⁰

Figure 9.4 Comparison of CSIRO EDD projections with AEMO EDD trended values



Source: ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 29.

While AEMO and CSIRO's series show a decline in EDD, the difference between the two series is that the CSIRO's projection starts from a lower base. The effect of using the lower EDD trend based on the CSIRO forecast is to make the demand forecasts lower, on average,

⁵⁸⁷ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 26.

⁵⁸⁸ AEMO, *Review of weather standards for gas forecasting Part 1 – Victorian EDD review*, April 2012.

⁵⁸⁹ AEMO, *Review of weather standards for gas forecasting Part 1 – Victorian EDD review*, April 2012.

⁵⁹⁰ The UHI effect is the result of increased 'urbanisation' and thus increased numbers of buildings and other man-made structures in urban areas. Those structures themselves radiate heat thus preventing minimum temperatures from being as low as they may otherwise have been.

for each year of the regulatory period than they would have been if the AEMO regression line was used as the basis of weather normalisation.⁵⁹¹

In its submission, the EUCV noted that the demand forecasts proposed by the Victorian gas distribution businesses could be understated.⁵⁹² The EUCV submitted that AEMO's gas consumption forecasts show a slight increase in consumption in contrast to the forecasts proposed by the distribution businesses. However, the EUCV acknowledged that some of the discrepancy could be explained by gas to power generation and exports to adjacent regions. AEMO's forecasts relate to the Victorian transmission system (VTS). The AER understands that the remaining discrepancy is likely to be explained by the fact that some customers obtain their gas supply through a direct connection to the VTS. The volume of gas supply through a direct connection to the VTS is not captured by demand forecasts for the distribution networks.

The AER accepts ACIL's findings on weather normalisation. The AEMO's data for the six years to 2011 are based on actual observations (not on a projection as in the CSIRO's data). The AER considers that the AEMO's series is a reasonable basis and represents the best estimates possible under the circumstances. For this reason, it is appropriate for SP AusNet to use the current AEMO EDD standard as the basis for weather normalising the historical data. The AER requires SP AusNet's to amend its demand forecasts as outlined in the revisions section below.

Forecast of tariff V residential customer usage

In its submission, Origin noted that SP AusNet is projecting a continuing downward trend in residential per capita gas consumption despite the likelihood of increasing penetration of gas appliances.⁵⁹³ The AER reviewed SP AusNet's assumptions on the effect of government policies that affect gas demand. Government policies related to construction standards and building design have an impact on demand. As buildings become more energy efficient, their gas usage (if connected to the network) is lower. If all other things remain the same, the improvement in building and appliance efficiency combined with the impact of solar hot water system uptake over time is likely to weaken the increase in gas usage resulting from the increased penetration of gas appliances. The AER considers that SP AusNet's projection of a continuing downward trend in residential per capita gas consumption is arrived at on a reasonable basis.

Forecast of tariff V residential customer numbers

For tariff V residential customer number forecasts, SP AusNet used growth rate estimates of new dwellings derived by the Victorian Department of Planning and Community Development, published in 2009.⁵⁹⁴ SP AusNet applied these growth rate estimates to the most recent number of its residential customers.⁵⁹⁵ In its demand forecast report to SP AusNet, CIE noted

⁵⁹¹ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 30.

⁵⁹² Energy Users Coalition of Victoria, Submission to AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012, p. 42.

⁵⁹³ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 4.

⁵⁹⁴ Victoria Department of Planning & Community Development, *Victoria in Future 2008*; September 2009.

⁵⁹⁵ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 34.

that the Victorian Department of Planning and Community Development was to publish updated growth rate estimates by mid-2012.⁵⁹⁶ CIE indicated that these updated growth rates could be used to update SP AusNet's proposed demand forecasts.⁵⁹⁷ The AER notes that the Victorian Department of Planning and Community Development has now published the updated growth rates. The AER considers that to produce forecasts that are arrived at on a reasonable basis and represent the best estimate possible in the circumstances, it is appropriate to use the most current relevant data. The AER requires SP AusNet to amend its demand forecasts to account for the recent data as outlined in the revisions section below.

⁵⁹⁶ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 34.

⁵⁹⁷ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 34.

Tariff V non-residential customer numbers

For non-residential customer numbers in the Central and West regions, SP AusNet assumed that each additional 1,000 residential customers resulted in an additional 6 non-residential (commercial/industrial) customers.⁵⁹⁸ The AER considers that the growth pattern of the commercial base may be broadly consistent with the growth in residential customer base. The ESC supported the view that commercial and industrial connections are generally proportionate to new dwelling completions.⁵⁹⁹

CIE analysed SP AusNet's customer database for the period 2003 to 2011 to determine the assumed relationship between residential and commercial/industrial customers.⁶⁰⁰ CIE analysis shows that the number of new commercial customers for an additional 1,000 residential customers averages 11.4 for 2003 to 2011.⁶⁰¹ It also shows that for 2005 to 2011, each additional 1000 residential customers resulted in an additional 6.5 commercial customers.⁶⁰² The AER understands that SP AusNet's assumption of a 6/1000 residential-commercial customer ratio is arrived at by excluding data points for 2003 and 2004 from the sample. SP AusNet did not identify any specific policies which might explain the exclusion of these years from the sample.

The AER requested SP AusNet to justify the exclusion of these two years from the dataset.⁶⁰³ In response, SP AusNet submitted that there was a policy change in 2003, where TXU Networks (the former owner of the gas network) created the split of tariff V between residential and non-residential customers.⁶⁰⁴ After the split, retail data was relied upon to identify the customers for each grouping. SP AusNet considered that the growth in

non-residential connections for the years 2003 and 2004 may have been artificially high in the

period after this policy change given retailers identified existing customers and moved them to the correct category.⁶⁰⁵ The AER accepts this explanation and considers that it is reasonable to exclude the years 2003 and 2004 from the dataset as per SP AusNet's approach.

Tariff V non-residential usage – price elasticity of demand

Tariff V non-residential gas consumption forecasts exhibit a break in trend (Figure 9.5 and Figure 9.6).

⁵⁹⁸ Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 2.

⁵⁹⁹ ESC, *Gas Access Arrangement Review 2008-2012: Draft decision*, August 2007, p. 440.

⁶⁰⁰ SP Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 19.

⁶⁰¹ SP Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 40-41.

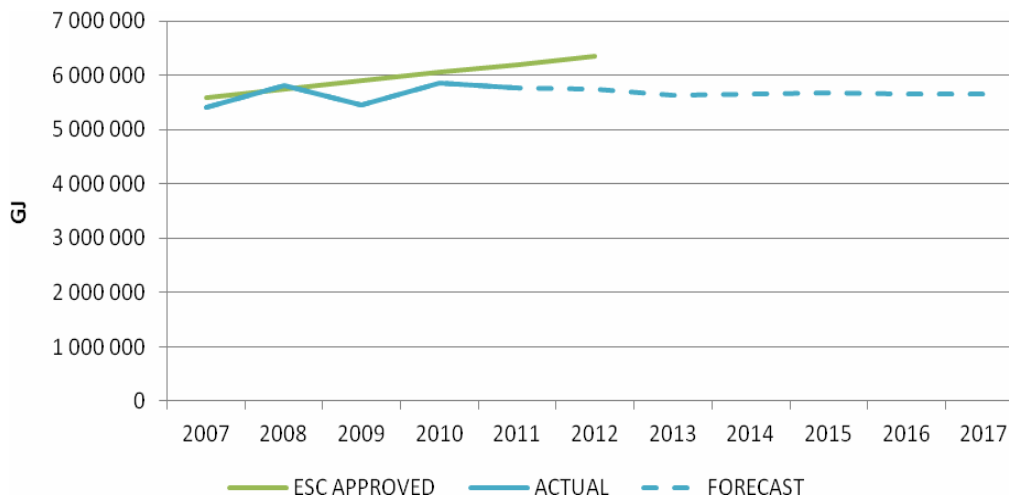
⁶⁰² SP Centre for International Economics, *Gas demand forecasting, SP AusNet, 2013-17*, March 2012, p. 40-41.

⁶⁰³ AER, Information request 22 to SP AusNet, Submission to the AER: 10 July 2012.

⁶⁰⁴ SP AusNet, Submission to the AER: Information request 22 of 10 July 2012, 25 July 2012, p. 2.

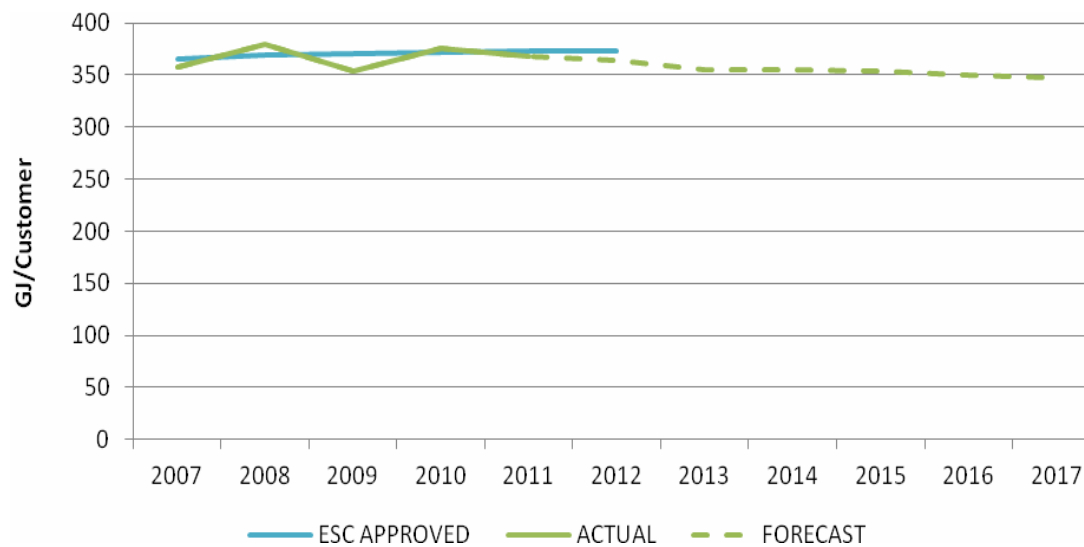
⁶⁰⁵ SP AusNet, Submission to the AER: Information request 22 of 10 July 2012, 25 July 2012, p. 2.

Figure 9.5 SP AusNet–Tariff V non–residential consumption, approved, actual and forecast 2007 to 2017



Source: SP AusNet, *Access arrangement information*, 30 March 2012, and SP AusNet *Regulatory Information Notice*; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision*, 7 March 2008 Chapter 11.

Figure 9.6 SP AusNet–Tariff V non–residential average consumption, approved, actual and forecast 2007 to 2017



Source: SP AusNet, *Access arrangement information*, 30 March 2012, and SP AusNet *Regulatory Information Notice*; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision*, 7 March 2008 Chapter 11.

A break in trend can result from a number of factors. The AER reviewed the assumptions that SP AusNet relied on to forecast tariff V non–residential gas usage. The AER notes that SP AusNet used an estimate of price elasticity of demand of -0.77 to forecast tariff V non-residential gas usage. The price elasticity of -0.77 was estimated by CIE using data relevant to SP AusNet's network area.⁶⁰⁶ This value of price elasticity is higher than that assumed by Envestra (-0.35) and Multinet (-0.28) in preparing their demand forecasts for the

⁶⁰⁶ SP AusNet, Submission to the AER: Information request 22, 10 July 2012, 25 July 2012, p. 3.

2013–2017 access arrangement period.⁶⁰⁷ CIE also estimated a price elasticity for tariff V residential gas demand of -0.17, which is lower than that assumed by Envestra (-0.30) and Multinet (-0.28).⁶⁰⁸ A higher value of price elasticity for tariff V non-residential demand has the impact of overstating SP AusNet's proposed gas demand forecasts for this customer group. Similarly, a lower value of price elasticity for tariff V residential demand has the impact of understating SP AusNet's proposed gas demand forecasts for this customer group. The AER notes the large difference in price elasticity between the two customer groups (-0.60). ACIL noted that on a volume-weighted average basis, using the elasticity estimates and SP AusNet's actual consumption data for residential and non-residential tariff V customers, the price elasticity across all tariff V customers would be -0.27.⁶⁰⁹ ACIL concluded that on this basis, the CIE price elasticity estimates can be viewed as being comparable to the assumptions made by Envestra and Multinet.⁶¹⁰ The AER considers the impact of the understated tariff V residential demand elasticity is likely to be offset by an overstated tariff V non-residential demand elasticity estimate.

SP AusNet submitted that CIE's estimate of price elasticity of demand for gas is the best available estimate.⁶¹¹ The AER understands the difficulties involved in estimating price elasticity. The AER agrees that CIE's estimates may be the best estimates currently available in the Victorian gas industry because these are based on actual data. Given the context, the AER considers that SP AusNet's assumption on the value of price elasticity has been arrived at on a reasonable basis.

⁶⁰⁷ A higher value of price elasticity implies that SP AusNet's proposed tariff V non-residential gas demand forecasts are relatively higher than that of Envestra and Multinet.

⁶⁰⁸ The relatively lower price elasticity implies that SP AusNet's proposed tariff V residential gas demand forecasts are relatively lower than that proposed by Envestra and Multinet.

⁶⁰⁹ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 15.

⁶¹⁰ ACIL Tasman, *Review of demand forecasts for SP AusNet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 15.

⁶¹¹ SP AusNet, Submission to the AER: Information request 22, 10 July 2012, 25 July 2012, p. 3.

9.5 Revisions

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

Revision 9.1: Amend the access arrangement information to delete total customer numbers tables 4.2 and 4.4), total usage (tables 4.7 and 4.10) and replace with the following:

Table 9.59 AER draft decision on SP AusNet's tariff V

	2013	2014	2015	2016	2017
Residential tariff V					
Customer numbers	607,990	623,030	638,550	654,495	668,355
Demand (TJ)	29,782	29,984	30,198	30,414	30,571
Non-residential tariff V					
Customer numbers	15,829	15,925	16,028	16,130	16,219
Demand (TJ)	5,665	5,708	5,720	5,708	5,703

Source: AER analysis

Revision 9.2: Amend the access arrangement information to delete table 4.11 and replace with the following:

Table 9.60 AER draft decision on SP AusNet's tariff D

	2013	2014	2015	2016	2017
Tariff D					
Customer numbers	289	289	289	289	289
Demand - MHQ (GJ)	10,200	10,200	10,200	10223	10259

Source: AER analysis

Table 9.61 AER draft decision on SP AusNet's tariff M

	2013	2014	2015	2016	2017
Tariff M					
Demand - MHQ (GJ)	187	187	187	187	188

Source: AER analysis

10 Tariff setting

This attachment outlines the AER's assessment of the reference tariffs proposed by SP AusNet against the requirements of the NGR, specifically rr. 93 and 94 of the NGR. The AER's assessment focuses on the structure of reference tariffs. The AER's assessment takes into account the revenue and pricing principles including ss. 24(2) and 24(5) of the NGL.

10.1 Draft decision

The AER approves SP AusNet's proposed structure of reference tariffs for the 2013–17 access arrangement period. The AER is satisfied the proposed structure of the reference tariffs complies with the requirements under rr. 93 and 94 of the NGR.

However, the AER, taking into account the revenue and pricing principles, considers that the quantum of the proposed reference tariffs must be amended as set out in revision 1.3. of attachment 11 in this draft decision. This revision is required to reflect the changes to forecast total revenue and forecast demand. The reasons for the AER's decision are discussed in detail below.

10.2 SP AusNet's proposal

SP AusNet proposed to maintain the current structure of its reference tariffs.⁶¹² The reference tariff classes proposed by SP AusNet are outlined in Table 10.62.⁶¹³

SP AusNet proposed to change the structure of its ancillary reference service tariff by removing one ancillary reference service from its current ancillary reference services (Table 10.63).⁶¹⁴

⁶¹² SP AusNet, *Access arrangement information*, 30 March 2012, p. 233.

⁶¹³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 240.

⁶¹⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 214.

Table 10.62 SP AusNet – reference services, tariff classes and tariff parameters for the 2013–17 access arrangement period

Reference services	Tariff classes	Tariff parameters
Residential services	Residential tariff V Central	Fixed base charge
	Residential tariff V West	
	Residential tariff V adjoining Central	Stepped variable usage charge, including seasonal pricing
	Residential tariff V adjoining West	
Non-residential services	Non-residential tariff V Central	Fixed base charge
	Non-residential tariff V West	
	Non-residential tariff V adjoining Central	Stepped variable usage charge, including seasonal pricing
	Non-residential tariff V adjoining West	
	Non-residential tariff D Central	Stepped variable demand charge
	Non-residential tariff D West	
	Non-residential tariff D adjoining Central	
	Non-residential tariff D adjoining West	
Non-residential services	Non-residential tariff M Central	Stepped variable demand charge
	Non-residential tariff M West	
	Non-residential tariff M adjoining Central	
	Non-residential tariff M adjoining West	

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p. 240–243.

Table 10.63 SP AusNet – ancillary reference service tariff structure

2008–12 access arrangement period (Current)	2013–17 access arrangement period (Proposed)	Parameter
Meter and gas installation test	Disconnection service	Fixed charge
Disconnection – meter removal	Reconnection service	Fixed charge
Disconnection – locks or plugs	Special meter reading service	Fixed charge
Reconnection		Fixed charge
Special meter reads		Fixed charge

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p. 214 and p. 243. ESC, *Gas Access Arrangement Review 2008-12 - Final Decision*, 7 March 2008, p. 547

10.3 AER approach

In a full access arrangement, a service provider is required to specify for each reference service the reference tariff and the proposed approach to the setting reference tariffs.⁶¹⁵ This is done by:

- explaining how revenues and costs are allocated, including the relationship between costs and tariffs⁶¹⁶
- defining the tariff classes⁶¹⁷
- comparing the revenue to be raised by each reference tariff with the cost of providing each individual reference service⁶¹⁸
- explaining any pricing principles it employed⁶¹⁹
- describing any pricing principles it employed.⁶²⁰

The AER is required to assess SP AusNet's proposed reference tariffs. Where the AER does not approve SP AusNet's proposal, the AER must determine the initial reference tariffs.

In its assessment of SP AusNet's proposed reference tariff, the AER considered:

- information provided by SP AusNet, particularly:
 - the access arrangement information (AAI) – this document provides details of SP AusNet's reference tariffs, including its costs allocation methodology, pricing principles, and information demonstrating the economic efficiency of SP AusNet reference tariffs⁶²¹
 - Part B of SP AusNet's access arrangement – this document sets out SP AusNet's reference tariffs and reference tariff policy⁶²²
 - additional information provided by SP AusNet in response to the AER's information requests
- submissions received in the course of consulting on the access arrangement proposal.

⁶¹⁵ NGR, r. 48(1)(d)(i); 72(1)(j)(i); 72(1)(j)(ii)

⁶¹⁶ NGR, r. 93(1)–(2)

⁶¹⁷ NGR r. 94(1)–(2)

⁶¹⁸ NGR, r. 94(3)

⁶¹⁹ NGR, r. 94(3)–(4)

⁶²⁰ NGR, rr. 48(1)(d)(i); 72(1)(j)(i); 72(1)(j)(ii)

⁶²¹ SP AusNet, *Access arrangement information*, 30 March 2012, chapter 15.

⁶²² SP AusNet's proposed access arrangement is set out in three parts - Part A, Part B and Part C. These documents can be accessed through the following link:
<http://www.aer.gov.au/content/index.phtml/itemId/738144>

Identifying the reference service

The NGR require SP AusNet to specify a reference tariff for each reference service.⁶²³ In assessing SP AusNet's proposed reference tariffs, the AER first considers what is (or are) the reference service(s) for the purpose of r. 101 of the NGR. The AER's draft decision on what constitutes the reference service is set out in attachment 1.

Assessing the tariff setting methodology for the reference service

The reference tariffs for a full access arrangement must be designed to meet the requirements of rr. 93 and 94 of the NGR. The AER has full discretion under r. 93 of the NGR and limited discretion under r. 94 of the NGR.⁶²⁴

The AER considered how SP AusNet intends to charge for reference services. Firstly, the AER assessed how SP AusNet intends to allocate costs and revenues between reference services and other services. Rule 93 of the NGR requires a service provider to demonstrate that total revenue is allocated between reference and other services in the ratio in which costs are allocated between reference and other services.⁶²⁵ Costs must also be allocated to the reference service and other services to which the cost is directly attributable.⁶²⁶

Secondly, the AER assessed how SP AusNet grouped its customers into tariff classes.⁶²⁷ Rule 94(1)-(2) requires that a tariff class group together customers for reference services on an economically efficient basis and to avoid unnecessary transaction costs. The AER considered that customer connection and usage characteristics are reasonable cost drivers within a service provider's distribution system. The grouping of customers with similar connection and usage characteristics in the same tariff class reveals consistency with r. 94(1)-(2) of the NGR, this approach is likely to be economically efficient and avoid unnecessary transaction costs.

Thirdly, for the purpose of compliance with r. 94(3)-(4) of the NGR, the AER assessed:

- how the expected average revenue of a tariff class compares with the stand alone cost and avoidable cost of providing the reference service to that tariff class⁶²⁸
- whether the tariff takes into account transaction costs associated with the tariff⁶²⁹
- whether the tariffs take into account the long run marginal costs of reference services⁶³⁰
- whether customers belonging to the relevant tariff class are able or likely to respond to price signals.⁶³¹

⁶²³ NGR, r. 48(1)(d)(i).

⁶²⁴ NGR, r. 94(6).

⁶²⁵ NGR, r. 93(1)

⁶²⁶ NGR, r. 93(2)

⁶²⁷ NGR, r. 94(1)-(2).

⁶²⁸ NGR, r. 94(3).

⁶²⁹ NGR, r. 94(4)(b)(i).

⁶³⁰ NGR, r. 94(4)(a).

⁶³¹ NGR, r. 94(4)(b).

10.4 Reasons for draft decision

The AER approves SP AusNet's proposed structure of reference tariffs. The AER considers the proposed tariff structure complies with the requirements of rr. 93 and 94 of the NGR. However, the AER, taking into account the revenue and pricing principles, considers that the proposed reference tariffs must be amended as set out in the revenue section of the draft decision. This revision is required to reflect the changes to forecast total revenue and forecast demand. The changes in total revenue are also outlined in the revenue section of the draft decision and changes to forecast demand are outlined in attachment 9 of this draft decision.

This section sets out the reasons for the AER's decision under the following headings:

- the allocation of revenues and costs to reference tariffs
- the establishment of tariffs classes
- tariff classes and revenue limits.

The Energy Users Coalition of Victoria (EUCV) submitted that there was a significant increase in the level of the proposed reference tariffs compared with the approved level under the ESC. The EUCV noted that all of the distribution businesses have attributed the higher tariffs to the combination of increased claims for rates of return, higher capex and opex claims and an expected reduction in the consumption of gas.⁶³² The EUCV further noted that great care is required in assessing whether the reference tariffs are cost reflective, citing that it was unable to make its own assessment due to information asymmetry.⁶³³

The AER has considered the EUCV submissions in making this draft decision on SP AusNet's proposed reference tariffs.

10.4.1 Allocation of revenues and costs to reference tariffs

The AER is satisfied that SP AusNet's proposed allocation of revenues and costs to reference services complies with r. 93(1)–(2) of the NGR for the following reasons:

- SP AusNet submitted that only costs related to haulage reference services and ancillary reference services are included in the revenue building block calculation.⁶³⁴ Costs incurred in providing non-reference services are not included in the revenue building block calculation because they are directly recovered from the particular customers requesting the service.⁶³⁵
- SP AusNet provided the AER with information outlining its stand-alone costs, long run marginal costs and incremental costs.⁶³⁶ SP AusNet's submitted that it allocates costs between haulage reference services according to costs drivers such as gas usage

⁶³² Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012, p. 3.

⁶³³ Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012, p. 3.

⁶³⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 235.

⁶³⁵ SP AusNet, *Access arrangement information*, 30 March 2012 p. 235.

⁶³⁶ SP, Response to information request of 22 June 2012, received 22 June 2012.

profiles.⁶³⁷ The AER reviewed SP AusNet's cost allocation spreadsheets and confirms that this is the case. These spreadsheets also allocate the building block revenue components to each tariff class based on a combination of costs allocators.

For the above reasons, the AER is satisfied that SP AusNet's approach to allocating revenue and costs between reference services and non-reference services complies with r. 93(1)-(2) of the NGR.

10.4.2 Establishment of tariff classes

Rules 94(1)–(2) of the NGR set out the requirements for tariff classes for a distribution pipeline. SP AusNet proposed to maintain its current tariff classes (Table 10.62). To group customers into tariff classes, SP AusNet relied on customers' connection and gas usage characteristics such as anytime maximum demand, location and contribution to overall system peak demand.⁶³⁸ The AER considers that these characteristics are likely to drive costs within SP AusNet's gas distribution network. Therefore, using them to group customers in tariff class is appropriate. The AER agrees with SP AusNet that:

- anytime maximum demand impacts the size of a customer's connection, which influences the level of network the customer is connected to, and therefore the proportion of assets that are required to provide pipeline services⁶³⁹
- grouping customers by location is likely to reflect the different costs of supplying pipeline services to and within broad geographic areas. In addition, this approach to grouping customers by location is likely to minimise transaction costs associated with transferring customers between classes once a customer has been connected to SP AusNet's network.⁶⁴⁰
- different customer classes will have different load factors across the year, which leads to different utilisation patterns of SP AusNet's asset base across the year. This leads to different customers contributing differently to the costs of services provided by SP AusNet. In addition, SP AusNet's long run marginal cost analysis splits customers based on their peak and off-peak consumption.⁶⁴¹

Based on the above reasons, the AER is satisfied that the proposed tariff classes are consistent with the requirements of the NGR.⁶⁴²

SP AusNet proposed to rationalise its ancillary reference service tariffs. In particular, SP AusNet proposed to reclassify its current meter and gas installation test service (Table 10.63).⁶⁴³ as a non-reference service

⁶³⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 235.

⁶³⁸ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 240–241.

⁶³⁹ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 240–241.

⁶⁴⁰ NGR, r. 94(3)(b).

⁶⁴¹ Under r. 94(4)(a) of the NGR, a service provider must take the long run marginal cost into account in designing its reference tariffs.

⁶⁴² The AER notes that SP AusNet's existing tariff classes were approved by the Victorian Essential Services Commission (ESC) for the 2008–2012 access arrangement period under the National Third Party Access Code for Natural Gas Pipeline Systems Code (the Code). The AER understands that the requirements for reference tariffs under the Code and the NGR are broadly similar; though the provisions under the NGR appear to set a lower threshold by giving the AER less discretion to mandate cost reflectivity of reference tariffs.

⁶⁴³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 214.

The meter and gas installation test is an on-site test to check the accuracy of a meter and the soundness of a gas installation to determine whether the meter is accurately measuring the quantity of gas delivered.⁶⁴⁴

The AER does not approve SP AusNet's proposal to rationalise its ancillary reference services. The reasoning for the AER's decision is discussed in attachment 1 of this draft decision. The AER requires SP AusNet to amend its proposed tariffs for ancillary service by including a tariff for the meter and gas installation test service.

Tariff classes and revenue limits

The AER is satisfied that SP AusNet's proposed reference tariffs are consistent with the NGR requirements.⁶⁴⁵ The NGR provide that reference tariffs for each tariff class should lie on or between the stand alone cost of providing the reference service to customers who belong to that class and the avoidable cost of not providing the reference service to those customers.⁶⁴⁶ The AER reviewed SP AusNet's definitions of avoidable and standalone costs for the residential, non-residential and demand tariff classes. It considers that these definitions are acceptable for assessing compliance with rule 94(3). SP AusNet demonstrated that for each tariff within the tariff V and tariff D classes, the expected tariff revenue lies on or between the avoidable and standalone costs (Table 10.64 and 0).⁶⁴⁷

⁶⁴⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p.214.

⁶⁴⁵ NGR, r. 94(3)

⁶⁴⁶ NGR, r. 94(3).

⁶⁴⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p.238–239.

Table 10.64 SP AusNet - reference tariffs V: avoidable costs, expected revenues and stand alone costs (\$2011)

Tariff class	Avoidable costs	Weighted average revenue	Stand alone cost	Compliance with rule 94(3)
Tariff V residential – Central	\$3.16	\$540	\$1,486	Yes
Tariff V residential – West	\$3.17	\$455	\$1,492	Yes
Tariff V residential – Adjoining Central	\$2.07	\$577	\$1,054	Yes
Tariff V residential – Adjoining West	\$3.23	\$804	\$1,514	Yes
Tariff V non residential – Central	\$4.11	\$1,425	\$10,043	Yes
Tariff V non residential – West	\$2.64	\$937	\$6,546	Yes
Tariff V non residential – Adjoining Central	\$4.16	\$4,171	\$10,161	Yes
Tariff V non residential – Adjoining West	\$5.40	\$5,284	\$13,118	Yes

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p.238.

The AER notes that the average revenue for tariff M customers is above the stand alone cost (Table 1.4). SP AusNet explained that this is only the case when a group of tariff M customers: (a) are assumed to be situated directly adjacent to the transmission network, and (b) together utilise the full capacity (387GJ/hr) of the city gate. SP AusNet submitted that this situation is not observed in its network. SP AusNet's largest tariff M customer has a capacity of less than 105GJ/hr. When this capacity is taken into account, the calculated stand alone cost is above the revenue generated as required under r. 94(3) of the NGR (see last row in Table 1.4). SP AusNet also submitted that none of its large tariff M customers is situated within a distance from the transmission network that would make a bypass economical. The AER accepts the above explanation.

For the above reasons, the AER is satisfied that SP AusNet's proposed reference tariffs are consistent with r. 94(3) of the NGR. Therefore, the AER approves the structure of reference tariffs as proposed by SP AusNet for the 2013–17 access arrangement period.

Table 10.65 SP AusNet – reference tariffs D and M: avoidable costs, expected revenues and stand alone costs (\$2011)

Tariff class	Avoidable costs	Weighted average revenue	Stand alone cost	Compliance with rule 94(3)
Tariff D				
0m from transmission with MHQ of 387GJ/hr	\$240 per MHQ	\$459per MHQ	\$653 per MHQ	Yes
Customers above this threshold residential – Central	\$192–\$82 per MHQ	\$442–\$424 per MHQ	\$1,902–\$615 per MHQ	
Tariff M				
0m from transmission assuming usage equivalent to citygate capacity of 387GJ/hr	\$240 per MHQ	\$901per MHQ	\$653 per MHQ	No
825m from transmission assuming usage equivalent to citygate capacity of 387GJ/hr	\$240 per MHQ	\$901 per MHQ	\$902 per MHQ	Yes
0m from transmission assuming largest tariff M customer of 105MHQ and citygate capacity of 387GJ/hr	\$240 per MHQ	\$901 per MHQ	\$2408 per MHQ	Yes

Source: SP AusNet, *Access arrangement information*, 30 March 2012, p.239

Tariffs and charging parameters

Rule 94(4)(a) of the NGR requires that a tariff takes into account the long run marginal cost for the reference service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates. In its analysis of avoidable and standalone costs, SP AusNet used the Average Incremental Cost (AIC) approach to calculate the long run marginal cost (LRMC).⁶⁴⁸ The AER considers this approach appropriate as it is well suited to situations where there is fairly consistent profile of investment over time to service growth in demand. The AER reviewed the assumptions that SP AusNet made to derive the LRMC.⁶⁴⁹ The AER considers that the approach to derive the LRMC and the underlying assumptions are acceptable based on its review of the access arrangement information section 15.5.1. SP AusNet stated as a result of its LRMC analysis, both residential and commercial reference tariffs have peak and off-peak pricing with marginally higher pricing in the peak (winter) period.⁶⁵⁰ SP AusNet submitted that to account for LRMC it proposed to retain existing price differentials. Further, its reference tariff V charging structure account for the fact that:⁶⁵¹

⁶⁴⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 235.

⁶⁴⁹ These assumptions are outlined in: SP AusNet, *Access arrangement information*, 30 March 2012, p. 236.

⁶⁵⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 244.

⁶⁵¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 244.

- the elasticity of demand for off peak gas is low, therefore, it does not consider there to be any material efficiency benefits from adopting variable prices that exactly replicate the calculated LRMC of supply, relative to its proposed pricing levels.
- there would be significant customer impacts from readjusting tariffs to perfectly reflect the calculated LRMC of supply, as any reduction in off peak revenue would be recovered through higher fixed costs, which would disproportionately impact on low volume users.

Based on the above reasons, the AER considers that the proposed reference tariff structure is consistent with r. 94(4) of the NGR.

10.5 Revisions

Before the access arrangement can be approved, SP AusNet must amend the proposed reference tariffs as outlined below.

Revision 10.1: Amend the proposed amend reference tariffs as outlined in revenue attachment of the this draft decision.

Revision 10.2: Amend section 10 of the access arrangement Part B to delete the table and replace with the following:

Ancillary Reference Tariff	Price (inclusive of GST)
Disconnection	
Disconnection by the carrying out of work being the use of locks or plugs at a Metering Installation in order to prevent the withdrawal of Gas at the Distribution Supply Point.	\$53.31
Disconnection means the carrying out of work to prevent the withdrawal of Gas at a Distribution Supply Point	
Reconnection of Meter	
Reconnection by turning on Supply, including the removal of locks or plugs used to isolate Supply or reinstallation of a Meter if it has been removed, performance of a safety check and the lighting of appliances where necessary.	\$53.31
Turn On of service to a Distribution Supply Point which has previously been disconnected	
Special Meter Reads	
Meter reading for a DSP in addition to the scheduled meter readings that form part of the Haulage Reference Services	\$8.26
Undertaken at the request of the User or Customer, not part of the periodic meter read schedule	
Meter and gas installation test	include relevant price

11 Tariff variation mechanism

This attachment sets out the AER's consideration of SP AusNet's proposed reference tariff variation mechanism. The reference tariff variation mechanism:

- permits building block revenues to be recovered smoothly over the access arrangement period, subject to any differences between forecast and actual demand
- 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.

11.1 Draft decision

The AER does not approve SP AusNet's proposed tariff variation mechanisms for the 2013–17 access arrangement period. The AER considers that some elements of SP AusNet's proposed tariff variation mechanism are not consistent with the NGL and the NGR or that there are alternatives to some elements of SP AusNet's proposal that better meet the purpose of the NGR and NGL. In particular, the AER considers:

- the proposed magnitude and level of the rebalancing constraint; the variation process; and certain elements in the cost pass through tariff variation mechanism are not consistent with r. 97 of the NGR regarding the mechanics of tariff variation. These proposed elements must be amended as indicated below.
- the proposed initial reference tariffs and x factors must be amended to reflect the changes to the forecast total revenue identified in the revenue section of the draft decision
- the proposed financial failure of a retailer and new connection process events must be removed from the cost pass through mechanism
- a national energy customer framework event and mains replacement event must be included in the definition of a Relevant Pass Through Event
- the proposed cost pass through mechanism should be amended to enable the AER to apply a consistent approach to its assessment of pass through applications.

The reasons for the AER's decision are further discussed below.

11.2 SP AusNet's proposal

SP AusNet proposed a tariff variation mechanism that is generally consistent with that of its current access arrangement other than updated values for the X factor, an increased

rebalancing constraint, a carbon tax true up and demand true up.⁶⁵² The proposed tariff variation mechanism includes:

- an annual reference tariff adjustment mechanism and process, which applies for each year of the access arrangement period
- a cost pass through reference tariff variation mechanism and process.

11.2.1 Annual tariff variation mechanism

Haulage reference services

SP AusNet proposed an annual tariff variation mechanism in the form of a weighted average price cap (WAPC) formula, consistent with its current access arrangement.⁶⁵³ SP AusNet's proposed tariff control formula is:⁶⁵⁴

For the calendar year 2013

$$(1 + CPI_t)(1 - X_t)(1 + L_t)(1 + A_t)(1 + A_{t-1}) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} \cdot q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} \cdot q_{t-2}^{ij}}$$

where:

CPI_t is the CPI for year t⁶⁵⁵

p_t^{ij} is for each haulage reference service the proposed haulage reference tariff for haulage reference tariff component j of haulage reference tariff i in calendar Year t;

p_{t-1}^{ij} is for each haulage reference service the haulage reference tariff being charged for haulage reference tariff component j of haulage reference tariff i in calendar year t-1

q_{t-2}^{ij} is for each haulage reference service the quantity of haulage reference tariff component j of haulage reference tariff i that was sold in calendar year t-2

X_t is – 0.0388

⁶⁵² SP AusNet, *Access arrangement information*, 30 March 2012, p.215–232.

⁶⁵³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 215.

⁶⁵⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 217–218.

⁶⁵⁵ CPI is: the consumer price index: all groups index for the eight state capitals as published by the Australian Bureau of Statistics for the September quarter immediately preceding the start of the relevant Calendar Year (a); divided by the consumer price index: all groups for the eight state capitals as published by the Australian Bureau of Statistics for the September quarter immediately preceding the September quarter referred to in paragraph (a); minus one. For more details, see: SP AusNet, access arrangement revision 2013–2017, Part A for the access arrangement for the distribution system, 30 March 2012, pp. 15-16.

L_t is the licence fee factor for calendar year t.

A_t is an approved pass through factor for calendar year t

A_{t-1} is the approved pass through factor in relation to carbon liability for calendar year t-1

For the calendar year 2014 to 2017

$$(1 + CPI_t)(1 - X_t)(1 + L_t)(1 + A_t) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} \cdot q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} \cdot q_{t-2}^{ij}}$$

Where all the variables are defined as above and:

X_t is 0

The key proposed changes to SP AusNet's tariff variation mechanisms for haulage reference services are:

- two new elements in the adjustment factor (A_t).⁶⁵⁶
 - the carbon tax true up required to recover carbon costs
 - the demand risk adjustment factor (demand true up) – SP AusNet submitted that this factor is intended to manage the risk of a material reduction in gas usage following a material increase in the wholesale gas prices⁶⁵⁷
- an increase in the value of the rebalancing constraint from two per cent to five per cent.⁶⁵⁸
- the application of the rebalancing constraint at the haulage reference service level rather than at the component/tariff class level as in the current access arrangement.⁶⁵⁹

Ancillary services

SP AusNet proposed to maintain the current tariff variation for ancillary reference services, which increase tariffs by the change in CPI on an annual basis.⁶⁶⁰

⁶⁵⁶ SP AusNet, *Access arrangement information*, 30 March 2012, p. 222–227.

⁶⁵⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 223–225.

⁶⁵⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 226

⁶⁵⁹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 226
SP AusNet, *Access arrangement information*, 30 March 2012, p. 231–232.

11.2.2 Cost pass through tariff variation mechanism

SP AusNet included a cost pass through tariff variation mechanism in its access arrangement proposal to ensure it can recover incremental costs resulting from relevant pass through events.⁶⁶¹ SP AusNet proposed to maintain the cost pass through events defined in its current access arrangement and to these include additional cost pass through events. The proposed cost pass through events are:⁶⁶²

- a change in taxes event
- the financial failure of a retailer event
- a declared retailer of last resort event
- a new connection process event
- a Victorian energy efficiency target scheme event⁶⁶³
- an insurer credit risk event
- an insurance event
- a natural disaster event
- a terrorism event
- a regulatory change event.

SP AusNet proposed a materiality threshold of one per cent of forecast revenue for the relevant year in the access arrangement period.⁶⁶⁴

11.2.3 Annual tariff variation process

SP AusNet proposed to maintain the current tariff variation process in the next access arrangement period.⁶⁶⁵ In particular, it proposed to notify the AER in respect of any reference tariff variations at least to 35 days prior to the commencement of the next calendar year.⁶⁶⁶

11.3 Assessment approach

Under the NGR, a reference tariff variation mechanism for an access arrangement:

- must be designed to equalise (in present value terms):⁶⁶⁷

⁶⁶¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 216–217 and p. 222–223.

⁶⁶² SP AusNet, *Access arrangement proposal: Part A*, 30 March 2012, p. 24.

⁶⁶³ This event is omitted in Part A for the access arrangement for the distribution system. However, it is stated in SP AusNet, *Access arrangement information*, 30 March 2012, p.211.

⁶⁶⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 211–212.

⁶⁶⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 231.

⁶⁶⁶ SP AusNet, *Access arrangement information*, 30 March 2012, p. 231.

⁶⁶⁷ NGR, r. 92(2).

- forecast revenue from reference services over the access arrangement period and
- the portion of total revenue allocated to reference services for the access arrangement period
- may provide for variation of a reference tariff.⁶⁶⁸
 - in accordance with a schedule of fixed tariffs or
 - in accordance with a formula set out in the access arrangement or
 - as a result of a cost pass through for a defined event or
 - by the combination of two or more of these operations.

A formula for the variation of reference may (for example) provide for variable caps on the revenue to be derived from a particular combination of reference services; or tariff basket price control; or revenue yield control; or a combination of all or any of these factors⁶⁶⁹

A reference tariff variation mechanism must give the AER adequate oversight or powers of approval over variation of the reference tariff.⁶⁷⁰

The AER is required to have regard to various factors in deciding whether a reference tariff variation mechanism is appropriate for an access arrangement. These factors include:⁶⁷¹

- the need for efficient tariff structures
- the possible effects of the reference tariff variation mechanism on administrative costs
- the regulatory arrangements (if any) applicable to the relevant reference services before the commencement of the proposed reference tariff variation mechanism
- the desirability of consistency between regulatory arrangements for similar services,
- any other relevant factor.

Based on these factors, the AER considered the implications of the proposed reference tariff variation mechanism for efficient tariff structure and administrative costs of the AER, SP AusNet and natural gas consumers or potential consumers.⁶⁷² The AER took into account the nature and scope of pipeline reference services to which reference tariffs are applicable. Further, the AER compared the proposed reference tariff variation mechanism arrangements with the current arrangements for the SP AusNet and with other recent gas distribution access decisions for consistency in approach across the provision of similar services.

Rule 97(3)(e) of the NGR provides the AER with broad discretion to take into account any factors it considers relevant in deciding whether particular mechanics for reference tariff

⁶⁶⁸ NGR, r. 97(1).

⁶⁶⁹ NGR, r. 97(2).

⁶⁷⁰ NGR, r. 97(4).

⁶⁷¹ NGR, r. 97(3).

⁶⁷² NGR, r. 97(3)(a)–(b).

variation are appropriate. In this context, the AER assessed the potential impacts of SP AusNet's proposal on incentives for pipeline operation in a manner consistent with the National Gas Objectives (NGO) and with the revenue and pricing principles (RPP).⁶⁷³ The AER explicitly considered the implications of SP AusNet's proposal for the allocation of operational risk amongst the pipeline operator and users of pipeline services. Further, the AER assessed the implications of SP AusNet's proposed reference tariff variation mechanism for effective risk management in light of the long term interests of consumers of natural gas.

The AER has full discretion in assessing SP AusNet's proposed reference tariff variation mechanism.⁶⁷⁴ Accordingly, the AER can reject a proposed element of the reference tariff variation mechanism if it considers a preferable alternative exists that complies with applicable requirements of the NGL and NGR and is consistent with the applicable criteria prescribed by the NGL and the NGR. To reach its decision, the AER, having regard to the above factors:

- assessed whether the proposed tariff variation mechanism meets the requirements of the NGL and NGR
- considered whether an alternative to the proposed reference tariff variation mechanism would better promote the broader purpose of the regulatory framework.

In making its decision, the AER relied on:

- information provided by SP AusNet; particularly, the access arrangement information (AAI) and Part B of the proposed access arrangement – these documents provide details of SP AusNet's proposed price control mechanism
- additional information provided by SP AusNet in response to the AER's information requests
- submissions received in the course of consulting on the access arrangement proposal.

11.4 Reasons for decision

The AER does not approve SP AusNet's proposed tariff variation mechanism for the 2013–17 access arrangement period. The AER considers there are alternatives to some elements of the proposed tariff variation mechanism that better promote the purpose of the NGR.⁶⁷⁵ The elements that the AER does not approve relate to limited aspects of SP AusNet's proposal.

This section sets out the reasons behind the AER's decision under the following headings:

- annual tariff variation mechanism
- cost pass through tariff variation mechanism
- procedures for oversight and approval of tariff variations.

⁶⁷³ NGL, ss. 23–24.

⁶⁷⁴ NGR, r. 40(3).

⁶⁷⁵ NGR, rr. 92(2) and 97(3).

11.4.1 Annual tariff variation mechanism

Revenue equalisation

Under r. 92(2) of the NGR, the annual tariff variation mechanism over an access arrangement period must be designed to equalise (in present value terms) the building block costs associated with reference services and the portion of total revenue allocated to reference services. SP AusNet's proposed annual tariff variation formula complies in principle with r. 92(2) of the NGR. However, the AER considers that the initial reference tariffs must be amended as set out in revision 1.3. This revision is required to reflect the changes to forecast total revenue and forecast demand. The changes in total revenue are outlined in the revenue section of the draft decision and changes to forecast demand are outlined in attachment 9 of this draft decision.

Annual tariff variation formula

The AER approves SP AusNet's proposed annual tariff variation formula for reference services. The proposed formula is consistent with that of the current access arrangement in that it provides for inflation adjustment, an x factor adjustment, a licence fee factor adjustment and a cost pass through factor adjustment (adjustment factor).

The annual tariff adjustment formula proposed by SP AusNet appropriately references CPI as an indicator of inflation for an adjustment to take effect in the relevant calendar year (t). Further, the definition of CPI appropriately references the CPI change from the September quarter immediately preceding the start of the relevant calendar year (t-1) to the September quarter immediately preceding the calendar year (t-1); that is the calendar year (t-2). The AER is of the view that this is consistent with the most accurate measure available of the inflationary impacts on SP AusNet's costs.

While approving the structure of the proposed formula, the AER does not approve some elements of that formula, including the proposed:

- magnitude of rebalancing constraint and the level at which it should apply
- incorporation of the demand true up in the cost pass through adjustment factor
- X factors.

The reasons for the AER decision on the proposed rebalancing constraint and the demand true up are discussed below. The AER's reasoning for not approving the proposed x factor values is discussed in the revision section of this draft decision.

Rebalancing constraint

The AER approves SP AusNet's proposal not to apply the rebalancing constraint in the first year of the access arrangement period. The AER considers that this is consistent with r.

97(3)(d) of the NGR. SP AusNet's proposal is also consistent with how the rebalancing constraint applies in other gas decisions made by the AER and in the electricity industry.⁶⁷⁶

The AER does not approve the proposed changes to the magnitude (from two to five per cent) and level of the rebalancing constraint (application at the haulage reference level). In assessing these elements of the proposed tariff variation mechanism, the AER had regard to the relevant factors under r. 97(3) of the NGR. In summary:

- The proposed rebalancing constraint could lead to increased price volatility and potential price shocks to customers within the regulatory period. The AER considers that such outcomes are not consistent with the NGO and the RPP.
- The AER notes that the proposed rebalancing constraint is inconsistent with SP AusNet's current arrangements; the current arrangements for the other Victorian gas service providers; and the AER's recent decisions for Queensland and South Australia service providers access arrangement.
- The AER considers that the current form of rebalancing constraint, in combination with the cost pass through provisions under the NGR provides SP AusNet with a reasonable opportunity to recover at least its efficient costs.

The AER's reasoning is outlined below.

The need for efficient tariff structures (rule 97(3)(a))

SP AusNet submitted that there is an argument under r. 97(3)(a) of the NGR and the NGO to increase the rebalancing constraint if it inhibits its ability to move towards, or maintain, cost reflective pricing within the regulatory period. The AER agrees that increasing the rebalancing constraint would provide greater flexibility to change prices which could be used to achieve greater cost reflectivity. However, it is not apparent that the current balancing constraint of two per cent has materially inhibited SP AusNet's ability to achieve cost reflective pricing in previous regulatory periods. In addition, a higher rebalancing constraint could lead to increased price volatility and potential price shocks to customers within the regulatory period. This would create uncertainty for downstream users which, in turn, may be detrimental to the efficient investment in and utilisation of pipeline assets. The AER considers that a reference tariff control should preferable result in a price path with a reasonable degree of certainty and predictability. This view was also raised by AGL.⁶⁷⁷ This is important for AGL in considering medium and long term contracts for consumers and its ability to manage the cost of providing services.⁶⁷⁸ The AER considers that such outcomes are not inconsistent with the RPP.⁶⁷⁹

SP AusNet also proposed to apply the rebalancing constraint at the haulage reference service level rather than at the tariff component level as it is the case in the current access

⁶⁷⁶ AER, *Draft decision, Envestra Ltd access arrangement proposal for the SA gas network, 1 July 2011–30 June 2016, February 2011*, p.206; AER, *Draft decision, Envestra Ltd access arrangement proposal for the QLD gas network, 1 July 2011–30 June 2016, February 2011*, p.188.

⁶⁷⁷ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012 p. 2-3.

⁶⁷⁸ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012 p. 2-3.

⁶⁷⁹ NGL, s. 24(3)(c).

arrangement.⁶⁸⁰ SP AusNet submitted that its ability to rebalance tariffs is limited by the amount of revenue that is generated by applying the full rebalancing constraint (CPI plus two per cent) on the lowest revenue producing component.⁶⁸¹ The AER understands that, in proposing to apply the rebalancing constraint at reference service level, SP AusNet intends to further move towards costs reflective tariffs; and in so doing, eliminate cross-subsidies between tariff components of a tariff class. However, the AER considers that cost reflectivity of reference tariffs can be better achieved by changing reference tariffs at the review of its access arrangement. The NGR and the NGL do not prohibit SP AusNet from changing (rebalancing) its reference tariffs at the time of access arrangement review.

Effects of the reference tariff variation mechanism on administrative costs (rule 97(3)(b))

SP AusNet submitted that its proposed changes to the rebalancing constraint are not likely to have a material impact on the administrative costs incurred by any stakeholder.⁶⁸² The AER agrees with SP AusNet that once reference tariffs have been allowed to change, relative to the prices in year t-1, the administrative costs to the AER and the service provider of assessing a larger change in tariffs are likely to be immaterial.

The regulatory arrangements applicable to the relevant reference services (rule 97(3)(c))

The AER notes that the proposed rebalancing constraint differs from that of the current access arrangement.

Consistency between regulatory arrangements for similar services (rule 97(3)(d))

The AER notes that the proposed changes to the rebalancing constraint are not consistent with the current arrangements for the other Victorian gas service providers (Envestra and Multinet) and the AER's recent decisions for Queensland and South Australia service providers.⁶⁸³

Other relevant factors 97(3)(e)—the NGO and RRP

SP AusNet submitted that an overly restrictive rebalancing constraint will inhibit a business's ability to adjust tariffs in response to within period exogenous events.⁶⁸⁴

⁶⁸⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 226.

⁶⁸¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 226.

⁶⁸² SP AusNet, *Access arrangement information*, 30 March 2012, p. 226.

⁶⁸³ AER, *Draft decision, Envestra Ltd access arrangement proposal for the SA gas network, 1 July 2011–30 June 2016*, February 2011, p.206; AER, *Draft decision, Envestra Ltd access arrangement proposal for the QLD gas network, 1 July 2011–30 June 2016*, February 2011, p.188.

⁶⁸⁴ SP AusNet cited events such as: changing consumption profiles, the impact of climate on demand, changes in government policies affecting gas usage, or changes in the amount and location of new development due to macroeconomic events. For more details, see: SP AusNet, *Access arrangement information*, 30 March 2012, p. 227.

The majority of potential exogenous events that SP AusNet lists in its submission⁶⁸⁵ appear to relate to demand risk. In this case, the AER notes that, to the extent that these events or developments are foreseeable and imminent, these factors can be assessed in the context of demand forecasts. In fact SP AusNet's proposed demand forecast account for the demand risk associated with the potential increase in wholesale gas prices.⁶⁸⁶ Furthermore, the AER notes that SP AusNet has scope under the NGR to choose the form of price control and propose a cost reflective tariff structure that can reduce its demand risk.

As outlined above, the AER also considers that SP AusNet's proposed changes to the rebalancing constraint may create undue price volatility which is inconsistent with the NGO and the RPP. In sum, the AER considers that the current magnitude of rebalancing constraint (two per cent) in combination with the cost pass through provisions under the NGR provides SP AusNet with a reasonable opportunity to recover at least its efficient costs, consistent with the RPP.

For the above reasons, the AER does not approve the rebalancing constraint as proposed by SP AusNet. The AER considers that a rebalancing constraint of two per cent that applies at component/tariff class level is appropriate for the 2013–17 access arrangement period. The AER will consult with market participants to assess how this decision aligns with their preferences on price stability within and across access arrangement periods.

Ancillary reference services

The AER approves SP AusNet's proposed annual tariff variation formula for ancillary reference services. The proposed formula is consistent with the earlier access arrangement in that it provides for inflation adjustment and complies with r. 97(3)(d) of the NGR.⁶⁸⁷ The definition of CPI that SP AusNet proposed to use for the adjustment of ancillary reference services is similar to that of the haulage reference service tariff variation mechanism.

The AER approves that tariffs for ancillary reference services be varied annually from the second year of the access arrangement period as proposed by SP AusNet, that is, from 2014.⁶⁸⁸ The AER also approves SP AusNet's proposal to apply no rebalancing constraint for ancillary reference services. The AER considers that SP AusNet's proposal not to apply the rebalancing constraint to ancillary reference service tariffs is consistent with the AER's recent gas access arrangement review.⁶⁸⁹ In addition, this aligns with the approach taken by the other Victorian gas service providers, specifically, Envestra and Multinet. The AER considers that this is consistent with r. 97(3)(d) of the NGR.

11.4.2 Cost pass through tariff variation mechanism

The AER approves most aspects of SP AusNet's proposed cost pass through tariff variation mechanism. However, the AER does not approve the following:

⁶⁸⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 227.

⁶⁸⁶ SP AusNet, *Access arrangement information*, 30 March 2012, p. 80.

⁶⁸⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 231.

⁶⁸⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 231.

⁶⁸⁹ AER, *Draft decision, Envestra Ltd access arrangement proposal for the SA gas network, 1 July 2011–30 June 2016, February 2011*, p.206; AER, *Draft decision, Envestra Ltd access arrangement proposal for the QLD gas network, 1 July 2011–30 June 2016, February 2011*, p.188.

- the proposed introduction of an adjustment factor that incorporates a demand risk factor (demand true up) and a carbon tax true up to the cost pass through mechanism.
- cost pass through events and definitions.

The AER's reasons are set out below.

Adjustment factor

SP AusNet proposed an adjustment factor to implement a cost pass through mechanism. This adjustment factor provides a mechanism for implementing:

- the carbon tax true up required to recover carbon costs incurred in 2012
- any pass through amount approved by the AER pursuant to a pass through application relating to a relevant pass through event
- a demand true up.⁶⁹⁰

The AER approves the first two elements of SP AusNet proposed adjustment factor. The cost pass through mechanism is further discussed below.

Carbon tax amount

The AER understands that to recover its carbon tax costs for the 2013–17 access arrangement period, SP AusNet proposed to:

- include an opex allowance made up of the costs of administering the carbon tax scheme⁶⁹¹
- set a separate carbon tax tariff intended to recover its carbon tax liability costs with a true up mechanism each year.⁶⁹²
- SP AusNet submitted that this true-up or correction factor mechanism will compare its cost recovery during a particular year (based on a forecast of the carbon liability for that year) with the actual impact of the carbon liability. An adjustment will be made in the following year(s) to ensure that SP AusNet only recovers the actual costs of the carbon liability, taking into account the time value of money.⁶⁹³ This true up mechanism incorporates two steps:
 - a reference tariff adjustment in the regulatory year after costs are incurred
 - an adjustment in the second year after costs are incurred.⁶⁹⁴

SP AusNet'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

⁶⁹⁰ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 216–217 and pp. 222–223.

⁶⁹¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 133.

⁶⁹² SP AusNet, *Access arrangement proposal: Part B*, 30 March 2012, s. 3.7, p. 18–20.

⁶⁹³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 133 and pp. 228–229.

⁶⁹⁴ SP AusNet did not propose a carbon tax pass through event as part of the true up mechanism.

year to which they relate. As proposed by SP AusNet, 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. The AER notes that the proposed true up mechanism will mitigate risk of under or over recovery of costs from year to year.⁶⁹⁵ It must operate in symmetrical manner, that is, such that any changes in the carbon pricing would flow through to customers.

In this draft decision the AER approves SP AusNet's proposed carbon cost opex allowance (attachment 6). The AER also approves SP AusNet's proposal to set a separate carbon with a true up mechanism. When assessing SP AusNet's proposed tariffs, the AER will also assess whether the expected revenue from carbon tariff is less than or equal to the maximum carbon tariff revenue allowed.

However, the AER does not approve SP AusNet'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 preferable to the proposed two stage true-up.

The AER requires that the carbon tax tariff formula 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. 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.

Given the proposed true up mechanism, the AER requires that the access arrangement be revised to specify that SP AusNet must provide the AER with the relevant carbon tax related information that would enable the AER to appropriately assess the inputs of annual tariff variation mechanism.

Demand true up

The proposed demand true up is an adjustment factor that SP AusNet proposed to include in its tariff variation formula to mitigate the risk associated with the increase in wholesale gas prices. The AER does not approve the proposed demand true up for the reasons below.

SP AusNet submitted that the combination of domestic and international energy market conditions has created unprecedented uncertainty in the outlook for gas prices over the 2013–17 access arrangement period.⁶⁹⁶ There is a material asymmetric risk to demand forecasts resulting from the potential for wholesale gas prices to move to international parity. SP AusNet stated three factors that are likely to cause the movement of domestic wholesale gas prices to move to parity with international prices.⁶⁹⁷ These include:

- the commissioning of LNG facilities on the eastern seaboard towards the end of the 2013–17 access arrangement period

⁶⁹⁵ SP AusNet, *Access arrangement information*, 30 March 2012, p. 229–231.

⁶⁹⁶ SP AusNet, *Access arrangement information*, 30 March 2012, p. 219.

⁶⁹⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 219.

- the current integrated gas supply network would allow gas that would have otherwise been sold into the Victorian market to be transported to areas where these (LNG) facilities are located
- the opportunity cost of selling gas into the domestic market will increase even prior to the commissioning of these (LNG) plants. SP AusNet stated that the economics of withholding gas supply to the domestic market, to sell on the world market at some point in the future, will improve the closer the plants are to commissioning and the greater the capacity of these plants to process that withheld gas.⁶⁹⁸

The AER agrees with SP AusNet that LNG facilities are likely to be commissioned towards the end of the 2013–17 access arrangement period. This is forecast in the 2011 gas statement of opportunities report (GSOO), which is published by the Australian Energy Market Operator (AEMO).⁶⁹⁹ This report discusses future developments in the Eastern and South Eastern Australian gas industry.⁷⁰⁰ In particular, the report outlines facilities dedicated to LNG export, including the planned export commencement dates for each project.⁷⁰¹

The AER considers that the commissioning of LNG facilities and the commencement of LNG export have the potential to cause domestic wholesale gas prices to increase. AEMO similarly noted that the development of an East coast LNG industry may result in domestic gas prices rising towards parity with international prices.⁷⁰² However, based on the reasons below, the AER considers that Victorian gas prices will respond to upward pressure with a lag; and this is unlikely to occur within the 2013–17 access arrangement period.

- The Victorian wholesale gas market is unlikely to fully respond to developments in the LNG export within the 2013–17 access arrangement period. This market is relatively rigid as it is governed by long term supply and transportation contracts.⁷⁰³ Terms and conditions of these contracts are binding; meaning that contract prices prevail over the term of the contract.
- The Queensland government 2011 Gas market review predicted that Queensland domestic gas prices would rise to \$5 – 8 per gigajoule by 2016, with the high end of this range being likely. This review also predicted that prices would likely rise slightly later in the southern states *such as Victoria* than in Queensland (emphasis added).⁷⁰⁴
- Governments quarantine some gas for domestic use. Past policies usually include agreements between LNG producers and the government as a precondition for allowing on-shore processing facilities on state land. For example, such a policy was adopted by the WA government in 2006.⁷⁰⁵ Under this policy, project proponents are required to reserve up to 15 per cent of LNG production for supply to the domestic market. This was

⁶⁹⁸ SP AusNet, *Access arrangement information*, 30 March 2012, p. 219.

⁶⁹⁹ AEMO, *Gas statement of opportunities for Eastern and South Eastern Australia*, 2011.

⁷⁰⁰ AEMO, *Gas statement of opportunities for Eastern and South Eastern Australia*, 2011, chapter 6.

⁷⁰¹ AEMO, *Gas statement of opportunities for Eastern and South Eastern Australia*, 2011, p. 6–7 to 6–9.

⁷⁰² AEMO, *Gas statement of opportunities for Eastern and South Eastern Australia*, 2011 (executive summary).

⁷⁰³ AER, *State of the energy market 2011*, xxx, chapter 3.

⁷⁰⁴ Queensland Department of Employment, Economic Development and Innovation, *2011 gas market review Queensland*, 2011, pp. 42–43.

⁷⁰⁵ Western Australia Parliament, Economics and industry standing committee: *Report into domestic gas prices, Report No. 6 in the 38th Parliament*, 2011, p. 79.

to ensure that gas is available for WA at a competitive price.⁷⁰⁶ Such policies are designed to temporarily insulate domestic gas prices from the upward pressure due to LNG export developments.

In accordance with r. 97(3)(d) of the NGR the AER has taken into account the fact that no other Victorian gas service provider has proposed to introduce a demand true up factor in the annual tariff variation mechanism.

Under the NGR, the AER can reject a proposed element of the reference tariff variation mechanism if it considers a preferable alternative exists that better promotes the requirements in the NGR and NGL.⁷⁰⁷ For the above reasons, the AER considers that the proposed tariff variation formula revised to remove the demand risk factor would constitute a better alternative. Therefore, the AER does not approve the adjustment factor as proposed by SP AusNet. The AER requires SP AusNet to revise the proposed tariff variation mechanism by removing the demand true up component from the adjustment factor as outlined in revision 1.7.

Energy Safe Victoria levy

The AER understands that Energy Safe Victoria (ESV) has proposed to change the level of gas industry levies that it charges to the Victorian gas distribution businesses. The ESV is currently consulting with the pipeline and gas industry on its proposal. A decision on the matter is unlikely to be made before the AER's draft decision is published. If the proposed changes are adopted, the AER notes that there is likely to be a material increase in the ESV levy for the Victorian gas distribution businesses from 2013–2014. To account for this potential increase in the ESV levy, the AER proposes that gas distribution businesses include an additional element in the annual tariff variation mechanism that will recover the incremental amount of the ESV levy – that is, the amount above their proposed ESV levy related opex forecasts. SP AusNet is to submit a revised annual tariff variation formula with an additional factor (similar to the licence fee). The AER will assess the revised tariff variation formula in making its final decision on the 2013–17 access arrangement.

Cost pass through events

Rule 97(1)(c) of the NGR provides that a reference *tariff variation mechanism* may provide for variation of a reference tariff as a result of a *cost pass through* for a defined event. The AER has full discretion to withhold its approval to an element of a *reference* tariff variation mechanism if it believes that a preferable alternative exists.⁷⁰⁸

The AER needs to assess a Service Provider's proposal to make a decision on a proposed reference tariff variation mechanism. When deciding whether a reference tariff variation mechanism is appropriate to an access arrangement the AER must have regard to the factors

⁷⁰⁶ Western Australia Parliament, Economics and industry standing committee: Report *into domestic gas prices, Report No. 6 in the 38th Parliament*, 2011, p. 80.

⁷⁰⁷ The AER has full discretion for r. 97 of the NGR, which governs the tariff variation mechanism for an access arrangement.

⁷⁰⁸ NGR, r. 40(3).

in r. 97(3) of the NGR. The cost pass through provisions of an access arrangement must be consistent with these rules and the NGO.⁷⁰⁹

The AER considers the requirements of a cost pass through mechanism should be designed to achieve the NGO through the support of an appropriate level of administrative costs. The AER considers a cost pass through mechanism should appropriately balance the risk of material, unexpected and uncontrollable events that impact on a service provider with the long-term interests of consumers.

In particular, the AER considers there should be incentives for a service provider to bear some risk of unexpected events, as this will encourage the service providers to manage or mitigate the costs associated with such events. The AER also considers that any pass through mechanism should be symmetric, such that users will benefit from unexpected or uncontrollable events that materially reduce the costs faced by a service provider. The AER considers that a pass through mechanism should seek to minimise any administrative costs.

Cost pass through events should provide service providers and other stakeholders with sufficient protection against unexpected and uncontrollable risks. However, the AER considers that cost pass through events should not remove incentives from service providers to engage in efficient business practices.

All businesses are subject to the risk of unexpected and uncontrollable events and like unregulated businesses, regulated businesses should be required to bear some of these costs as part of the normal course of doing business. The AER considers that cost pass through events should be designed to encourage service providers to engage in prudent and efficient business practices.

Assessment Criteria

In deciding on the appropriateness of a proposed cost pass through event the AER must consider the factors in r. 97(3) and assess its consistency with the NGO. The AER, in its Victorian Electricity Distribution Network Service Provider's Draft Decision, set out a detailed consideration of its conceptual approach to assessing cost pass through events.⁷¹⁰ The AER developed a number of criteria to assist it in assessing proposed cost pass through events against the NEO. The AER considers that the NEO are sufficiently similar to the NGO for the same criteria to be applicable. However, the National Electricity Rules do not contain a rule analogous to r. 97(3). Nonetheless, the AER considers that these criteria can act as general principles to assist it in assessing whether a proposed cost pass through event for a gas network is consistent with the NGO.

- the event is not already provided for:
 - through the opex allowance (e.g. the insurance or self insurance components)
 - through the WACC (events which affect the market generally and not just the provider are systematic risk and already compensated through the WACC), or

⁷⁰⁹ NGR, r. 100.

⁷¹⁰ AER, *Victorian Electricity Distribution Network Service Provider's Draft Decision*, 2010 p. 716.

- through any other mechanism or allowance
- the event is foreseeable—in that the nature or type of event can be clearly identified
- the event is uncontrollable—in that a prudent service provider through its actions could not have reasonably prevented the event from occurring or substantially mitigated the cost impact of the event
- the event cannot be self-insured because a self insurance premium cannot be calculated or the potential loss to the business is catastrophic
- the party who is in the best position to manage the risk is bearing the risk
- the passing through of the costs associated with the event would not undermine the incentive arrangements within the regulatory regime.⁷¹¹

The AER has had regard to these criteria in assessing SP AusNet's proposed cost pass through events against the NGL. However, the AER has not applied the criteria strictly and has departed from them where it considers it necessary to better promote the NGL.

SP AusNet has included a number of new cost pass through events in its access arrangement proposal. These events are largely consistent with recent AER decisions.⁷¹² SP AusNet explains that the new cost pass through events are adopted from either the AER's recent determination for SP AusNet's electricity distribution network, or cost pass through events specified in the National Electricity Rules.⁷¹³

The AER considers that some of the cost pass through events in SP AusNet's *current* access arrangement do not satisfy the criteria outlined above and are not designed to encourage efficient behaviour. The AER considers that most of SP AusNet's *proposed* cost pass through events meet the criteria outlined above and are needed to provide SP AusNet with sufficient cover. The AER does not approve two of SP AusNet's proposed cost pass through events and requires the definition of two further cost pass through events to be amended.

Except for the events discussed below, the AER accepts SP AusNet's proposed cost pass through events and definitions. The following discussion only covers the proposed cost pass through events or definitions that the AER does not accept on the basis that they do not comply with the requirements of the NGL or the NGR or that a preferable alternative exists that better satisfies the requirements under r. 97 of the NGR, as well as the national gas objective and NGL revenue and pricing principles.⁷¹⁴

⁷¹¹ Victorian Electricity Distribution Network Service Provider's Draft Decision, p. 716.

⁷¹² AER Draft decision: APT Pipeline PTY LTD, Roma to Brisbane Pipeline, April 2012, pp. 70-72; AER, Draft decision: N.T. Gas access arrangement, April 2011, pp. 166-167; AER, Draft decision: Envestra Ltd: Access arrangement proposal for the Qld gas network 2011-2016, February 2011, p. 191 (AER, Draft decision: Envestra access arrangement Qld, February 2011); AER, Draft decision: Envestra Ltd: Access arrangement proposal for the SA gas network 2011-2016, February 2011, p. 209 (AER, Draft decision: Envestra access arrangement SA, February 2011); AER, Draft decision: APT Allgas: Access arrangement proposal for the Qld gas network 2011-2016, February 2011, pp. 138-140.

⁷¹³ SP AusNet, 2013-2017 Gas access arrangement review – Access arrangement information, 30 March 2012, p. 211.

⁷¹⁴ NGL, s. 23 and s. 24 respectively.

Where the AER requires the definition of a cost pass through event to be revised, the revised definition is set out in section 11.10 below.

National Energy Customer Framework Event

The AER requires SP AusNet to include a new pass through event in its access arrangement to allow it to recover costs that it may incur following the implementation of the National Energy Customer Framework (NECF) in Victoria or any part of NECF.

In its access arrangement proposal, SP AusNet proposed a step change to recover additional operating expenditure that it considered it would incur as a result of the implementation of NECF in Victoria.⁷¹⁵ SP AusNet's proposal was based on the expectation that NECF would commence in Victoria on 1 July 2012 in line with the intended timeframe for its national implementation. The Victorian Government, subsequent to SP AusNet submitting its access arrangement proposal, announced its decision to delay the introduction of NECF in Victoria. The Victorian Government has yet to announce an alternative date for when the relevant legislation will be implemented to give effect to NECF.

Given the uncertainty around when NECF will commence in Victoria, the AER does not consider that SP AusNet's proposed step change reflects expenditure that would be incurred by a prudent and efficient service provider. The AER therefore does not accept SP AusNet's proposed step change for NECF related expenditure (refer to attachment 6, section 6.5.4).

Notwithstanding this decision, the AER considers that it is appropriate for SP AusNet to recover any expenditure it incurs in implementing NECF following its implementation in Victoria. The AER considers that any such expenditure should be assessed as a pass through application once NECF, or any part of it, is adopted in Victoria.

The AER considers that the future commencement of NECF in Victoria would satisfy the AER's criteria for a defined pass through event. The AER considers that it can be clearly defined with reference to the commencement of NECF in Victoria, and is uncontrollable to the extent that it will only be triggered following a legislative act or decision of the Victorian Government. Further, the event represents an incremental cost as it has not been provided for through SP AusNet's opex allowance, as discussed above.

Lastly, the AER does not consider that a materiality threshold should apply for this defined pass through event. The AER recognises that SP AusNet may have incurred additional expense as a result of the delayed commencement of NECF in Victoria. Further, the AER notes that there continues to be ongoing uncertainty as to the timeframe for its implementation and the extent to which the state regulatory regime may be amended to reflect NECF in the interim. Given this added uncertainty—and noting that this event is entirely beyond SP AusNet's control—the AER considers it appropriate to allow SP AusNet to pass through costs associated with the commencement of NECF in Victoria, without the additional criteria that those costs be material.

The AER requires SP AusNet to revise its access arrangement proposal to include the following definition of a National Energy Customer Framework Event:

⁷¹⁵ SP AusNet, Access arrangement information, 30 March 2012, p. 151.

A National Energy Customer Framework Event means:

A legislative act or decision that:

- (a) occurs during the access arrangement period;
- (b) has the effect of implementing in Victoria, either in part or in its entirety, the National Energy Customer Framework; and
- (c) increases the costs to SP AusNet of providing Reference Services.

For the purposes of this pass through event, the National Energy Customer Framework means any legislation, regulations or rules, that give effect in Victoria to any or all of the Schedule to the National Energy Retail Law (South Australia) Act 2011, the National Energy Retail Regulations (South Australia) and the National Energy Retail Rules (South Australia) as amended from time to time.

Mains replacement pass through event

The AER requires SP AusNet to include a new pass through event in its access arrangement to recover costs that it has incurred, or will incur, to complete a volume of mains replacement in excess of the volumes approved by the AER in its access arrangement final decision. This pass through event is limited to the replacement of low pressure distribution mains with high pressure polyethylene mains.

In its access arrangement proposal, SP AusNet proposed capital expenditure based on a forecast increase in its rate of low pressure mains replacement over the annual average achieved during the 2008–12 access arrangement period.⁷¹⁶ The AER does not approve SP AusNet’s proposed capital expenditure and considers that the volume of mains replacement proposed by SP AusNet exceeds what is necessary and what would be delivered by a prudent and efficient service provider (refer to attachment 3). The AER considers that a reasonable basis for determining volume related capex is to base this on historical volumes actually delivered over the 2008-12 access arrangement period adjusted for the 2013-17 period.

Nevertheless, the AER recognises that the timing of low pressure mains replacement is somewhat discretionary and potentially subject to the changing risk profile of the network and resource availability. The AER considers that SP AusNet should be afforded sufficient flexibility to respond to changing conditions, including in the market, which may require SP AusNet to alter the volume of mains replacement delivered during the 2013–17 access arrangement period.

The AER therefore considers that an additional event should be included in SP AusNet’s pass through tariff variation mechanism to cover mains replacement. This event will allow SP AusNet to pass through costs it incurs, or is to incur, to complete a volume of mains replacement that exceeds the volumes approved by the AER in its access arrangement final decision. The AER considers, however, that for this pass through event to be clearly defined it should be limited in its scope to the forecast volumes of mains replacement in SP AusNet’s initial access arrangement proposal. Any costs that SP AusNet incurs, or is to incur, to complete a volume of mains replacement in excess of its forecast volumes will not fall within the scope of this defined pass through event.

⁷¹⁶ SP AusNet, *Access arrangement information*, 30 March 2012, pp. 102–109.

Lastly, the AER does not consider that a materiality threshold should apply to this defined pass through event, given the nature of the costs to be passed through. The AER notes that the replacement of low pressure mains is undertaken for safety and reliability reasons. Further, alterations in the volume of mains replacement delivered may be driven by factors such as new information on safety risks and changes in the relative costs for different methods for mitigating or removing those safety risks. The AER therefore does not consider it appropriate to apply a materiality threshold where it may operate as a disincentive to SP AusNet to undertake mains replacement work where it may be efficient and prudent having regard to the existing risk profiles of its network.

The AER requires SP AusNet to revise its access arrangement proposal to include the following definition of a Mains Replacement Event:

A Mains Replacement Event means an event whereby SP AusNet completes the Adjusted Historical Volumes of Mains Replacement during the course of the 2013–17 access arrangement period and:

(a) costs are incurred, or are to be incurred, by SP AusNet in the remainder of the 2013–17 access arrangement period to complete a volume of Mains Replacement in excess of the Adjusted Historical Volumes; and

(b) the total volume of Mains Replacement to be completed during the 2013–17 access arrangement period is not greater than the volumes proposed by SP AusNet in its initial access arrangement proposal for that period.

For the purposes of this Mains Replacement Event:

(c) Adjusted Historical Volumes means 365 km, being the average annual volume of mains replacement completed by SP AusNet for the four years from 2008 to 2011 applied across the 2013–17 access arrangement period, with reference to the AER’s decision to approve the 2013–17 access arrangement and its reasons as set out in its Final Decision; and

(d) Mains Replacement means mains replacement for low pressure to high pressure block rollout, which involves the replacement of low pressure distribution mains with high pressure polyethylene mains through a process of dividing a low pressure region into smaller areas (referred to as blocks) which are then subject to systematic low pressure to high pressure replacement.

Change in Taxes Event

The AER does not accept SP AusNet’s proposed definition of a Change in Taxes Event. The AER requires SP AusNet to amend the definition of a Change in Taxes Event in accordance with Revision 11.10.

SP AusNet proposed the following definition for this event:

Change in Taxes Event means a variation, or withdrawal or introduction of a Relevant Tax, or a change in the way or rate at which a Relevant Tax is calculated, which has a material impact on the costs to the Service Provider of providing the Reference Services or which has a direct and material impact on the revenue received (after payment of Relevant Taxes) by the Service Provider from providing the Reference Services.⁷¹⁷

This event is carried over from the current access arrangement. However, this event is defined differently to the definition approved by the AER in recent gas pipeline decisions.

⁷¹⁷ SP AusNet - Gas Access Arrangement Review 2013–2017 Part A, p. 16.

For the reasons set out below the AER does not approve SP AusNet's proposed change in taxes event. The AER requires SP AusNet to include a change in taxes event that is consistent with the definition approved by the AER in its recent gas pipeline decisions.

Unlike the definitions recently approved by the AER, SP AusNet's proposed definition refers to a direct and material impact on the revenue received. The AER considers that the impact on revenue is not a relevant consideration for the purposes of this cost pass through event. The purpose of a cost pass through mechanism is to protect service providers from uncontrollable events that impact on the costs to the business. The rationale of a cost pass through mechanism focuses on increased or decreased costs. The impact of an event on revenue is not relevant to the AER's consideration of this.

The AER also considers that the inclusion of a reference to revenue in this definition is inconsistent with the language used in the other proposed definitions and the provisions for a relevant pass through event,⁷¹⁸ all of which are limited to costs.

Financial Failure of a Retailer Event

The AER does not accept SP AusNet's proposed Financial Failure of a Retailer Event. The AER requires SP AusNet to remove this event from the definition of a Relevant Pass Through Event.

SP AusNet proposed the following definition for this event:

Financial Failure of a Retailer Event means the occurrence of an event whereby a User is subject to an Insolvency Event, and as a consequence the Service Provider does not receive revenue which it was otherwise entitled to for the provision of References Services.⁷¹⁹

This cost pass through event is carried over from SP AusNet's current access arrangement. The AER does not consider that this event is consistent with the NGO.

In its draft decision on Envestra's proposed South Australian access arrangement, the AER did not approve a proposed event analogous to this event for reasons similar to those stated below.

The AER considers the event is unnecessary and therefore does not satisfy the criteria set out above. The AER considers that SP AusNet is capable of mitigating this risk by agreeing to appropriate prudential requirements with users. SP AusNet has proposed detailed credit support requirements in clause 7.8 of its proposed terms and conditions set out in Part C of its access arrangement proposal. The AER considers that these requirements provide SP AusNet with adequate protection against the risk of a retailer failing.

New Connection Process Event

The AER does not accept SP AusNet's proposed New Connection Process Event. The AER requires SP AusNet to remove this event from the definition of a Relevant Pass Through Event.

⁷¹⁸ SP AusNet - Gas Access Arrangement Review 2013-2017Part B, p. 29.

⁷¹⁹ SP AusNet - Gas Access Arrangement Review 2013-2017Part A, p. 21.

SP AusNet proposed the following definition for this event:

New Connection Process Event means a change in the retail Gas Market Rules requiring the Service Provider to be directly responsible for the Connection process.

This event is carried over from SP AusNet's current access arrangement.

The AER considers that a change in the retail Gas Market Rules would amount to a change in the regulatory framework and be covered by the definition of a regulatory change event, which is a new event in this access arrangement proposal. The AER proposes to approve the new regulatory change event.

Insurance Event

The AER does not accept SP AusNet's proposed definition of an Insurance Event. The AER requires SP AusNet to amend the definition of an Insurance Event in accordance with Revision 11.10.

SP AusNet proposed the following definition for this event:

An Insurance Event occurs if:

- (a) the Service Provider makes a claim on an insurance policy that it holds; and
- (b) the Service provider incurs costs beyond the policy limit for the relevant insurance policy; and
- (c) the Service Provider must bear the costs that are in excess of the policy limit; and
- (d) the event materially increases the costs to the Service Provider of providing Reference Services.

An insurance event allows a service provider to pass through costs that exceed the maximum payout that the service provider receives from its insurer when an insured risk eventuates.

SP AusNet's current access arrangement does not include an Insurance Event or any event analogous to the proposed Insurance Event.

The AER requires the definition of an Insurance Event to be amended so that the policy limit referred to in the definition is defined as the greater of the actual policy limit at the time of the event that gives rise to the claim and the policy limit at the time the AER makes its final decision on SP AusNet's access arrangement proposal for the 2013-17 access arrangement period. Further, the AER requires the policy limit to be defined with reference to the forecast operating expenditure allowance for the 2013-17 access arrangement period, approved by the AER in its Final Decision.

A network business, acting efficiently and prudently in managing its risks, is expected to take out an insurance policy that provides an efficient level of insurance coverage. It is appropriate to include provision in the cost pass through mechanism to allow the AER to determine whether any excess costs that are not covered under such a policy can be recovered from customers. This may occur in circumstances where a prudent network business has obtained an efficient level of insurance coverage, consistent with the standard expected and approved in its forecast operating expenditure allowance, but due to circumstances beyond its control, the policy coverage does not cover the costs incurred once a claim is made on that policy.

The kinds of circumstances that may lead to such an excess cannot be self-insured nor could the network business have taken actions to reasonably prevent these circumstances from occurring, or to substantially mitigate the relevant cost impact. Where this is the case, the AER does not consider that the network business should bear the costs in excess of their insurance policy coverage. A network business is not in a position to manage the risk of such circumstances occurring as they are beyond its control. It is therefore a legitimate cost that the network business incurs in the provision of reference services, that should be recovered from customers by way of a cost pass through. In these circumstances, the pass through of these costs will not undermine the incentives for the network business to efficiently and prudently manage the risks that are within its control.

SP AusNet's base forecast operating expenditure allowance includes a component for insurance coverage. There is an expectation that SP AusNet will expend that component to obtain an efficient level of insurance coverage, but the AER cannot compel SP AusNet to actually do this.

This raises the risk that SP AusNet might under-insure by obtaining a level of insurance cover lower than that contemplated in the forecast operating expenditure allowance determined in the AER's access arrangement final decision, and then pass through any costs that exceed its insurance cap. In these circumstances, customers are effectively paying twice—for the premiums of an efficient level of insurance as reflected in the forecast operating expenditure allowance, and through the cost pass through mechanism for costs that should have otherwise been covered by that efficient level of insurance.

To address this risk, the AER requires SP AusNet to amend the definition of an Insurance Event so that it is defined with reference to an efficient insurance policy limit as contemplated in the forecast operating expenditure allowance. This ensures that consumers pay for the premium as contemplated in the forecast operating expenditure allowance and beyond this may only pay for any excess loss incurred by the network business that would otherwise be considered an efficient cost.

The AER considers that the amended definition of an insurance event is a preferable alternative that complies with the NGL and is consistent with the NGR and NGO. As previously defined, the inclusion of an Insurance Event in the pass through regime may result in customers effectively paying twice. This is not in the long term interests of consumers, and therefore is inconsistent with the NGO. However, it is in the long term interests of consumers to allow a network business to recover costs that are legitimately outside of its control. The recovery of such costs is also consistent with ensuring that the network business is provided a reasonable opportunity to recover at least its efficient costs, as is consistent with the revenue and pricing principles.

The AER therefore requires SP AusNet to amend the definition of an Insurance Event in its access arrangement proposal as follows:

An Insurance Event means an event whereby:

- (a) SP AusNet makes a claim on a relevant insurance policy;
- (b) SP AusNet incurs costs beyond the relevant policy limit; and
- (c) The costs beyond the relevant policy limit materially increase the costs to SP AusNet of providing reference services.

For the purposes of this Insurance Event:

(d) The relevant policy limit is the greater of SP AusNet's actual policy limit at the time of the event that gives rise to the claim and its policy limit at the time the AER made its Final Decision on SP AusNet's access arrangement proposal for the period 2013-17, with reference to the forecast operating expenditure allowance approved in the AER's Final Decision and the reasons for that decision; and

(e) A relevant insurance policy is an insurance policy held during the 2013-17 Access Arrangement Period or a previous period in which access to the pipeline services was regulated.

The AER considers that an assessment of SP AusNet's decisions and actions in relation to the pass through event—including whether the event which was the subject of the relevant insurance claim was within SP AusNet's control—is relevant to the AER's decision whether or not to approve the Relevant Pass Through Event.

To give effect to this, the AER considers that the cost pass through mechanism should include an additional factor which the AER must consider when assessing whether to approve a proposed Relevant Pass Through Event. This factor would require the AER to consider the efficiency of SP AusNet's decisions, actions and omissions in relation to the risk of a pass through event, including whether SP AusNet has taken action to mitigate the risk of the pass through event occurring or the magnitude of the costs of the event. This assessment is not limited to those actions that concern the taking out of an appropriate insurance policy to cover particular risks, but also extends to the actions taken by SP AusNet, or not taken, to mitigate the risk of the event which is the subject of the relevant insurance claim and which has resulted in the pass through event application being made. The AER will assess the extent to which this was within SP AusNet's control.

The AER considers that this will incentivise SP AusNet to take mitigating action to reduce the likelihood of the risk of an Insurance Event eventuating and the extent of costs associated with the occurrence of this pass through event.

The AER considers that this approach will best achieve the NGO. The AER considers that it needs to examine the circumstances that led to or resulted in an application for a pass through of costs in excess of an insurance cap, when making a decision that is in the long term interests of consumers. These circumstances will inform the AER's assessment of what was within the service provider's control. This is both with respect to the insurance that it obtained and the cause of the claim that led to incurring the excess above the insurance cap.

For this reason, the AER has not excluded negligence.⁷²⁰ Under the additional factor, the AER considers that its enquiry will necessarily encompass any claims or findings of negligence in the context of the specific regulatory framework which empowers the AER to make a pass through determination.

Information concerning the circumstances of the event may include negligence as determined by a court of law. As part of its broad enquiry, the AER may also consider claims of negligence that have not been proved or made in a court of law. For example, there may be claims of negligence but no public admission of negligence, or a confidential settlement that prevents public disclosure. It is also possible that what constitutes negligence may not be settled. The NGL and NGR do not limit the AER in taking such information into account. The

⁷²⁰ SP AusNet did not propose an exclusion of negligence in its Insurance Event. SP AusNet: *Access arrangement proposal: Part A*, 30 March 2012, p.32.

AER will consider all such information available to it. Such information may or may not be determinative of whether the event was in the service provider's control for the purposes of the AER's decision on the pass through application.

The AER further notes that unlawful conduct and gross negligence would not be covered by an insurer and that acts or omissions resulting from such unlawful conduct or gross negligence could not trigger this pass through event.

Materiality Threshold

In its Access Arrangement Information SP AusNet proposes a 1 per cent of revenue cost materiality threshold for pass through events.⁷²¹ However, this threshold is not specified in SP AusNet's access arrangement proposal. The AER considers that the definition of material for the purposes of cost pass through events should be specified in the access arrangement.

11.4.3 Procedure for oversight and approval of tariff variations

The NGR states that a reference tariff variation mechanism must give the AER adequate oversight or powers of approval over variation of the reference tariff.⁷²²

Part Year tariffs

The AER's final decision on the 2013-17 access arrangements for the Victorian gas service providers is due to be made in March 2013. This is after the 1 January 2013 revision commencement date specified in the 2008-12 access arrangements for these service providers.

Rule 92(3) of the NGR prescribes that in the event of an interval between a revision commencement date stated in a full access arrangement and the date on which revisions to the access arrangement actually commence:

- (a) the reference tariff in force at the end of the previous access arrangement period, continue without variation for the interval of delay; but
- (b) the operation of this subrule may be taken into account in fixing reference tariffs for the new access arrangement period

There will be a delay in the making of the final decision, The AER has therefore taken into account the operation of r. 92(3) in fixing reference tariffs for the 2013-17 access arrangement period. The AER considers that the 2013 reference tariffs under the 2013-17 access arrangements should take effect from 1 July 2013 until 31 December 2013.

The AER considers that the interval of delay should not result in service providers incurring a windfall gain or loss, compared with what would have occurred if the 2013-17 access arrangements had taken effect from 1 January 2013. This approach is consistent with the efficiency objectives under the NGO and long term interest of gas consumers. This approach will also provide service providers with a reasonable opportunity to recover at least the efficient costs of providing reference services as approved in the access arrangements, consistent with the RPP.

⁷²¹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 211-212.

⁷²² NGR, r. 97(4).

The AER considers that the Reference Tariff Policy must be amended as set out in revision 1.9

Annual and Within-Year Variations

SP AusNet proposed to notify the AER in respect of any reference tariff variations at least 35 business days prior to the next calendar year.⁷²³ The AER considers that 50 business days prior to the new tariff implementation is appropriate and will give the AER adequate oversight as required under r. 97(4) of the NGR. This will give the AER 30 business days to approve or reject the proposed variations; and 20 business days for market participants to prepare for the implementation of the new tariffs. This approach is consistent with the AER's recent decision on gas access arrangement.⁷²⁴

However, this timeframe may not be appropriate for the AER to approve tariff variation if an application is incomplete or information is not substantiated. As a result, the AER considers that SP AusNet's access arrangement must be amended as outlined in revision 1.9. This is consistent with the AER's recent decisions on gas access arrangement.⁷²⁵

An important input in the proposed annual tariff variation mechanism is the use of past gas quantities to weight each tariff components. The AER considers it is appropriate that SP AusNet be required to provide an independent statement to support the actual gas quantities to allow the AER to verify the quantities used in the tariff variation mechanism, and to ensure it is applied consistently every year.⁷²⁶ The independent verification statement should provide for audited or verified quarterly and annual quantities for the year consistent with the proposed changes in CPI. This information is to be collected as part of the annual reporting requirements (audit requirement to be set out in RIN). The AER requires SP AusNet to amend its access arrangement proposal as outlined in revision 1.9.

Based on the above reason the AER does not approve the proposed annual tariff reference variation process for the 2013–17 access arrangement period. SP AusNet is required to amend its proposed reference tariff variation process as outlined in the revisions of this draft decision before it can be approved.

Procedure for a cost pass through variation in reference tariffs

SP AusNet's proposed approach is carried over from its current access arrangement. This approach differs in a number of respects from the process the AER has approved in its recent gas pipeline decisions. The AER considers that the cost pass through approval mechanism should be amended to be consistent with its recent decisions.

⁷²³ SP AusNet, *Access arrangement proposal: Part B - Reference tariffs and reference tariff policy*, 30 March 2012 p. 20.

⁷²⁴ AER, *Draft decision, Envestra Ltd access arrangement proposal for the SA gas network, 1 July 2011–30 June 2016, February 2011*, p.207; AER, *Draft decision, Envestra Ltd access arrangement proposal for the QLD gas network, 1 July 2011–30 June 2016, February 2011*, pp.188–189.

⁷²⁵ AER, *Draft decision, Envestra Ltd access arrangement proposal for the SA gas network, 1 July 2011–30 June 2016, February 2011*, p.207; AER, *Draft decision, Envestra Ltd access arrangement proposal for the QLD gas network, 1 July 2011–30 June 2016, February 2011*, pp. 188–189.

⁷²⁶ NGR, r. 97(3)(e).

Following the move to a national regulatory framework, the AER is responsible for regulating all network businesses in the National Energy Market. A consistent approval process is therefore desirable from the perspective of transparency and administrative efficiency. By specifying a consistent approach whereby it has to apply the same process for each cost pass through application, the AER will be able to process cost pass through applications in a more timely and efficient manner. The AER considers that the application of a consistent approach to the assessment of the same type of application from different service providers is consistent with the NGO.

The AER considers that it must be notified of a cost pass through event within 90 days of the costs being incurred, regardless of whether the event would result in a positive or negative impact on tariffs. The AER considers it should notify SP AusNet of its decision on any cost pass through application within 90 days of the application, except where it considers the cost pass through application is sufficiently complex as to require an extension. The AER must notify SP AusNet where this is the case. The AER considers that there is a risk that 30 days will be an insufficient period of time for it to make a complete and informed decision.

The AER considers that the time frames described above should balance the need for a timely response, with the flexibility for the AER to make a complete and informed decision.

The AER considers that a tariff variation as a result of a cost pass through event should take effect from the next 1 January, following approval of the cost pass through application.

The AER considers that the factors to be taken into account when assessing a cost pass through application should be uniform across access arrangements. The AER proposes to amend the factors proposed by SP AusNet to align them with the factors approved by the AER in recent gas pipeline decisions, subject to the inclusion of an additional factor as discussed above in the context of the Insurance Event definition. The AER considers that this is consistent with the NGR and NGO.

11.5 Revisions

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

Revision 11.1: Amend Section 3.1 of the Access arrangement proposal Part B to include an additional ESV adjustment factor in the annual reference tariff variation formula.

Revision 11.2: Amend Section 9 of the access arrangement proposal to include the following statement between section 9 and section 9.1 headings (page 33):

The initial reference tariffs are expressed in real 2013 dollars and the first annual tariff variation is made for the year commencing 1 January 2014.

Revision 11.3: Amend Section 9 of the access arrangement proposal as follows:

Delete all the tables in Section 9 and replace them with the following updated tables

Table 11.66 SP AusNet Haulage Reference Tariffs - Central Zone

Tariff V Residential		
Distribution Fixed Tariff Component	\$0.0834/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	6.9987	5.6084
> 0.1 - 0.2	5.1735	3.5311
> 0.2 - 1.4	1.6224	1.6203
> 1.4	1.0120	0.5571

Tariff V Non-residential		
Distribution Fixed Tariff Component	\$0.0841/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	6.3133	5.9785
> 0.1 - 0.2	4.1977	4.1915
> 0.2 - 1.4	2.2668	2.2409
> 1.4	0.9111	0.8744

Tariff M	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	1,646.4938
>10 - 50	1,192.3887
> 50	677.0877

Tariff D	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	891.2673
>10 - 50	608.6908
> 50	343.5550

Table 11.67

SP AusNet - Haulage Reference Tariffs - West Zone

Tariff V Residential		
Distribution Fixed Tariff Component	\$0.0834/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	5.6121	3.7644
> 0.1 - 0.2	5.1414	2.5778
> 0.2 - 1.4	2.1340	1.5438
> 1.4	0.9656	0.6843

Tariff V Non-residential		
Distribution Fixed Tariff Component	\$0.0841/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	4.5233	4.2610
> 0.1 - 0.2	3.7840	3.6278
> 0.2 - 1.4	2.0945	1.9616
> 1.4	0.7572	0.7331

Tariff M	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	1,646.4938
>10 - 50	1,192.3887
> 50	677.0877

Tariff D	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	891.2673
>10 - 50	608.6908
> 50	343.5550

Table 11.68

SP AusNet - Haulage Reference Tariffs - Adjoining Central Zone

Tariff V Residential

Distribution Fixed Tariff Component \$0.0834/day

Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	9.8421	8.3734
> 0.1 - 0.2	7.8854	6.5061
> 0.2 - 1.4	5.9980	5.0505
> 1.4	4.2168	3.8587

Tariff V Non-residential

Distribution Fixed Tariff Component \$0.0841/day

Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	9.3445	9.0479
> 0.1 - 0.2	7.2608	6.9563
> 0.2 - 1.4	5.6989	5.5897
> 1.4	4.2277	4.1422

Tariff M

Annual MHQ (GJ/hr) Tariff (\$/MHQ)

0-10	1,646.4938
>10 - 50	1,192.3887
> 50	677.0877

Tariff D

Annual MHQ (GJ/hr) Tariff (\$/MHQ)

0-10	891.2673
>10 - 50	608.6908
> 50	343.5550

Table 11.69 SP AusNet - Haulage Reference Tariffs - Adjoining West Zone

Tariff V Residential		
Distribution Fixed Tariff Component	\$0.0834/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	8.8266	7.0872
> 0.1 - 0.2	8.1931	6.5654
> 0.2 - 1.4	5.9222	5.0316
> 1.4	4.0600	3.8828

Tariff V Non-residential		
Distribution Fixed Tariff Component	\$0.0841/day	
Consumption Range (GJ/day)	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	7.7361	7.4366
> 0.1 - 0.2	7.2481	6.8958
> 0.2 - 1.4	5.8371	5.7333
> 1.4	4.2789	4.1839

Tariff M	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	1,646.4938
>10 - 50	1,192.3887
> 50	677.0877

Tariff D	
Annual MHQ (GJ/hr)	Tariff (\$/MHQ)
0-10	891.2673
>10 - 50	608.6908
> 50	343.5550

Revision 11.4: Amend Section 3 of the access arrangement proposal as follows:

Delete $Y_t = 0.05$ in the rebalancing control formula (section 3.5, page 17) and replace with and replace it with $Y_t = 0.02$.

Delete the definition of X_t on pages 10 to 11 and page 17; and replace with:

" X_t is defined by the alignment of the service provider's building block revenue requirement with the NPV of its forecast revenues and is determined to be:

$X_t = 21.41\%$ for the Calendar year 2013

$X_t = 0.00\%$ for the Calendar year 2014 to 2017"

Revision 11.5: Amend Section 3 of the access arrangement proposal as follows:

Delete "pre-tax WACC is 7.25%, being the implied real pre tax WACC applying to the service provider" on page 12 and replace with:

"Pre-tax WACC is defined by the alignment of the service provider's building block revenue requirement with the NPV of its forecast revenues and is determined to be 5.25 per cent"

Delete "pre-tax WACC is the implied real pre tax WACC applying to the service provider" on page 13 and replace with:

"Pre-tax WACC is defined by the alignment of the service provider's building block revenue requirement with the NPV of its forecast revenues and is determined to be 5.25 per cent"

Revision 11.6: Amend section 3 of the access arrangement proposal as follows:

Delete the content of section 3.7 and replace with:

When assessing the Service Provider's proposed tariff, submitted in accordance with this access arrangement, the AER will assess whether the expected revenue from carbon tariffs (CTR_t), is less than or equal to the maximum carbon tariff revenue allowed ($MCTR_t$) as follows:

$$CTR_t \leq MCTR_t$$

where:

CTR_t is the total of the Service Provider's proposed carbon tariffs multiplied by the corresponding forecast quantities to be distributed for each tariff component of each tariff, in calendar year t

$MCTR_t$ is the maximum carbon tariff revenue allowed and is expressed below.

$$MCTR_t = CTP_t - K_t$$

where:

$MCTR_t$ is the maximum carbon tariff revenue the Service Provider is allowed to receive from its carbon tax tariffs from all distribution customers for the calendar year t

CTP_t is the aggregate of all charges which the Service Provider forecasts it will be required to pay in carbon tax or in purchasing carbon tax permits in respect of calendar year t, and

K_t is a correction factor to account for any under or over recovery of actual revenue from carbon tax tariffs in relation to allowed revenue and is expressed as follows:

$$K_t = (CTRa_{t-2} - MCTR_{t-2}) - (CTPa_{t-2} - CTPe_{t-2})$$

where:

$CTRa_{t-2}$ is the actual audited total revenue earned by the Service Provider from carbon tax tariffs in respect of all distribution customers in calendar year t-2

$MCTR_{t-2}$ is the value calculated for $MCTR$ for calendar year t-2

$CTPa_{t-2}$ is the audited aggregate of all carbon tax charges which were paid by the Service Provider during calendar year t-2

$CTPe_{t-2}$ is the figure used for CTP_t when calculating $MCTR$ for calendar year t-2.

Note: K_t is zero for years 2012/13 and 2013/14

Revision 11.7: Amend Section 3 of the access arrangement proposal as follows:

- Delete p_t^{ij} , p_{t-1}^{ij} and q_{t-2}^{ij} on pages 10 to 12 and page 17; and replace with:

q_{t-2}^{ij} is the proposed haulage reference tariff for haulage reference tariff component j of haulage reference tariff i in calendar year t;

p_{t-1}^{ij} is the haulage reference tariff being charged for haulage reference tariff component j of haulage reference tariff i in calendar year t-1;

q_{t-2}^{ij} is the quantity of haulage reference tariff component j of haulage reference tariff i that was sold in calendar year t-2;

Revision 11.8: Amend Section 3 of the access arrangement proposal as follows:

- Delete

$$A'_t = \frac{PT_t + DT_t}{(1 + CPI_t)(1 - X_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} \cdot q_{t-2}^{ij}}$$

and replace with

$$A'_t = \frac{PT_t}{(1 + CPI_t)(1 - X_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} \cdot q_{t-2}^{ij}}$$

Delete the definition of DT_t on page 13.

- Delete sub-heading "Demand true-up" and all its content on pages 13 to 15.

Revision 11.9: Amend section 4 of the access arrangement proposal as follows:

- Delete section 4.1(a) and replace with the following:

The Service Provider will, at least 50 Business Days prior to the commencement of the next Calendar Year submit proposed Haulage Reference Tariffs to apply from the start of the next Calendar Year for verification of compliance by the Regulator, in accordance with clauses 4.2(a), (b), (c) and (d).

- Delete section 4.2(b) and replace with the following:

The proposed Haulage Reference Tariffs will be deemed to have been verified as compliant in writing by the Regulator by the end of 30 50 Business Days from the date on which the Regulator received the Service Provider's notification under clauses 4.1(a), (b) or (c) unless the Regulator has notified the Service Provider in writing that it has declined to verify the proposed Haulage Reference Tariffs as compliant.

- Delete section 4.3 and replace with the following:

At the same time as submitting proposed Haulage Reference Tariffs to the Regulator, the Service Provider will also provide to the Regulator information demonstrating that the proposed Haulage Reference Tariffs are, to the extent relevant, consistent with the Tariff Control Formula and rebalancing control formulae in clause 3.

In respect of the annual variations of reference tariffs, the Service Provider will include a statement to support the gas quantity inputs in the tariff variation formula. The statement will be independently audited or verified and the quantity input will reflect the most recent actual annual quantities available at the time of tariff variation assessment. The actual quantity will be provided as four quarters of gas quantity data reconciling to an annual total quantity of gas.

In respect of the carbon tax tariff, the Service Provider will include the following information and supporting documentation:

- (1) the most recent available certified emissions figure for the network, this being the reported figure for the previous financial year
- (2) a forecast of emissions for the current financial year
- (3) a forecast of emissions for the subsequent financial year
- (4) the actual cost of carbon permit acquisition for the previous financial year
- (5) a forecast cost of carbon permit acquisition for the current financial year
- (6) a forecast cost of carbon permit acquisition for the subsequent financial year
- (7) the dollar amount allowed each year by the AER for recovery, for all previous years
- (8) the difference between amounts allowed and the actual or forecast cost for the previous and current financial year; and
- (9) the amount being sought for recovery in the following financial year, being the sum of (6) and (7) above, which amount is to be included in the carbon tariff.

Delete the first paragraph of section 4.4 and replace with the following:

If the Service Provider does not, at least 50 Business Days prior to the commencement of the next Calendar Year t submit proposed Haulage Reference Tariffs to apply from the start of the next Calendar Year t in accordance with clause 4.1(a) then:

In making these amendments also take account of the need:

to make clear the Reference tariffs which applied in 2012 will continue to be apply in nominal terms until 1 July 2013.

to make clear that 2013 Reference tariffs will only apply for the period 1 July 2013 to 31 December 2013

to make changes to the process of the access arrangement to reflect that 2013 Reference tariffs will commence on 1 July 2013 rather than on the start of the calendar year (1 January).

Revision 11.10: Amend the Glossary in Schedule 2 of Part A of the access arrangement proposal as follows:

Delete the definition of Financial Failure of a Retailer event.

Delete the definition of New Connection Process event.

Delete the definition of Change In Taxes Event and replace it by inserting the following:

A Change in Taxes Event means an event where:

(a) any of the following occurs during the course of the access arrangement period:

(i) a change in a relevant tax, in the application or official interpretation

- (ii) of a relevant tax, in the rate of a relevant tax, or in the way a relevant tax is calculated;
 - (iii) the removal of a relevant tax;
 - (iv) the imposition of a relevant tax; and
- (b) in consequence, the costs to SP AusNet of providing reference services are materially increased or decreased.

A relevant tax is any tax payable by SP AusNet, other than:

- (a) income tax and capital gains tax;
- (b) stamp duty, financial institutions duty and bank accounts debits tax;
- (c) penalties, charges, fees and interest on late payments, or deficiencies in
- (d) payments, relating to any tax; or
- (e) any tax that replaces or is the equivalent of or similar to any of the taxes referred to in paragraphs (a) to (b) (including any State equivalent tax).

Delete the definition of Insurance event and replace it with the following:

An Insurance Event means an event whereby:

- (a) SP AusNet makes a claim on a relevant insurance policy;
- (b) SP AusNet incurs costs beyond the relevant policy limit; and
- (c) The costs beyond the relevant policy limit materially increase the costs to SP AusNet of providing reference services.

For the purposes of this Insurance Event:

- (d) The relevant policy limit is the greater of SP AusNet's actual policy limit at the time of the event that gives rise to the claim and its policy limit at the time the AER made its Final Decision on SP AusNet's access arrangement proposal for the period 2013-17, with reference to the forecast operating expenditure allowance approved in the AER's Final Decision and the reasons for that decision; and
- (e) A relevant insurance policy is an insurance policy held during the 2013-17 Access Arrangement Period or a previous period in which access to the pipeline services was regulated.

Insert the following definition of a National Energy Customer Framework Event:

A National Energy Customer Framework Event means:

A legislative act or decision that:

- (a) occurs during the access arrangement period;

(b) has the effect of implementing in Victoria, either in part or in its entirety, the National Energy Customer Framework; and

(c) increases the costs to SP AusNet of providing Reference Services.

For the purposes of this pass through event, the National Energy Customer Framework means any legislation, regulations or rules, that give effect in Victoria to any or all of the Schedule to the National Energy Retail Law (South Australia) Act 2011, the National Energy Retail Regulations (South Australia) and the National Energy Retail Rules (South Australia) as amended from time to time.

Insert the following definition of a Mains Replacement Event:

A Mains Replacement Event means an event whereby SP AusNet completes the Adjusted Historical Volumes of Mains Replacement during the course of the 2013–17 access arrangement period and:

(a) costs are incurred, or are to be incurred, by SP AusNet in the remainder of the 2013-17 access arrangement period to complete a volume of Mains Replacement in excess of the Adjusted Historical Volumes; and

(b) the total volume of Mains Replacement to be completed during the 2013-17 access arrangement period is not greater than the volumes proposed by SP AusNet in its initial access arrangement proposal for that period.

For the purposes of this Mains Replacement Event:

(c) Adjusted Historical Volumes means 365 km being the average annual volume of mains replacement completed by SP AusNet for the four years from 2008 to 2011 applied across the 2013-17 access arrangement period, with reference to the AER's decision to approve the 2013-17 access arrangement and its reasons as set out in its Final Decision; and

(d) Mains Replacement means mains replacement for low pressure to high pressure block rollout, which involves the replacement of low pressure distribution mains with high pressure polyethylene mains through a process of dividing a low pressure region into smaller areas (referred to as blocks) which are then subject to systematic low pressure to high pressure replacement. Insert a new definition of Materiality threshold as follows:

For the purpose of any Relevant Pass Through Event, an event is considered to materially increase or decrease costs where that event has an impact of one per cent of the smoothed forecast revenue specified in the AER's final decision, in the years for the regulatory control period that the costs are incurred.

Amend the definition of a Relevant Pass Through Event as follows:

Delete the Financial Failure of a Retailer Event;

Delete the New Connection Process Event;

Insert a National Energy Customer Framework Event; and

Insert a Mains Replacement Event.

Revision 11.11: Amend section 8 of Part B of the access arrangement proposal as follows:

Delete section 8 and replace it with the following:

Procedure for a Relevant Pass Through Event Variation in Reference Tariffs

SP AusNet will notify the AER of Relevant Pass Through Events within 90 business days of the relevant pass through event occurring, whether the costs would lead to an increase or decrease in Reference Tariffs.

When the costs of the Cost Pass Through Event incurred are known (or able to be estimated to a reasonable extent), then those costs shall be notified to the AER. When making a notification to the AER, SP AusNet will provide the AER with a statement, signed by an authorised officer of SP AusNet, verifying that the costs of any pass through events are net of any payments made by an insurer or third party which partially or wholly offsets the financial impact of that event (including self insurance).

The AER must notify SP AusNet of its decision to approve or reject the proposed variations within 90 Business Days of receiving the notification. This period will be extended for the time taken by the Regulator to obtain information from SP AusNet, obtain expert advice or consult about the notification.

However, if the AER determines the difficulty of assessing or quantifying the effect of the Relevant Pass Through Event requires further consideration, the AER may require an extension of a specified duration. The AER will notify SP AusNet of the extension, and its duration, within 90 business days of receiving a notification from SP AusNet.

Subject to the approval of the AER under the NGR, Reference Tariffs may be varied after one or more Relevant Pass Through Event/s occurs, in which each individual event materially increases or materially decreases the cost of providing the reference services. Any such variation will take effect from the next 1 January. In making its decision on whether to approve the proposed Relevant Pass Through Event variation, the AER must take into account the following:

- (a) the costs to be passed through are for the delivery of pipeline services
- (b) the costs are incremental to costs already allowed for in reference tariffs
- (c) the total costs to be passed through are building block components of total revenue
- (d) the costs to be passed through meet the relevant National Gas Rules criteria for determining the building block for total revenue in determining reference services
- (e) the efficiency of SP AusNet's decisions and actions in relation to the risk of the Relevant Pass Through Event occurring, including whether SP AusNet has failed to take any action that could reasonably be taken to reduce the magnitude of the costs incurred as a result of the Relevant Pass Through Event and whether SP AusNet has taken or omitted to take any action where such action or omission has increased the magnitude of the costs; and
- (f) any other factors the AER considers relevant and consistent with the NGR and NGL.

12 Non-tariff components

SP AusNet's access arrangement proposal sets out terms and conditions that are not directly related to the nature or level of tariffs paid by users. However, these are important to the relationship between SP AusNet and users. These are referred to by the AER as non-tariff components of the access arrangement and include:

- capacity trading requirements—how users may assign contracted capacity and change delivery and receipt points
- queuing requirements—a process or mechanism for establishing an order of priority between prospective users of spare and / or developable capacity
- extension and expansion requirements—the method for determining whether an extension or expansion is a part of the covered pipeline and the effect this will have on tariffs. These requirements are relevant when identifying the covered pipeline and pipeline services which will be regulated through the access arrangement
- commencement and review dates
- terms and conditions on which the reference service will be provided.

The AER's consideration of each of the non-tariff components of SP AusNet's proposed access arrangement is set out below.

12.1 Terms and Conditions

Rule 48(d)(ii) of the NGR requires that a full access arrangement specify for each reference service the other terms and conditions on which the reference service will be provided. The terms and conditions set out in an approved access arrangement will be the terms and conditions that the AER must give effect to in the event that there is an access dispute, requiring it to make an access determination.

Notwithstanding this, nothing in the NGL prevents a Service Provider from entering into an agreement with a user or a prospective user about access to a pipeline service that is different from the applicable access arrangement. The parties are therefore able to negotiate terms and conditions that are suitable to their commercial circumstances. The AER expects that the terms and conditions as set out in an approved access arrangement would act as a starting point for such negotiations.

12.1.1 Draft decision

The AER does not approve SP AusNet's proposed terms and conditions and requires a number of amendments to be made.

12.1.2 Access arrangement proposal

SP AusNet's terms and conditions are set out in Part C of its proposed access arrangement.

The changes made to SP AusNet's terms and conditions are predominantly driven by three factors:⁷²⁷

- the introduction of the National Energy Customer Framework (NECF), anticipated to be implemented in part in July 2012 and in total on or before 1 January 2013
- ensuring consistency across current regulatory arrangements
- minor improvements and refinements made to incorporate changes in the market or the law.

12.1.3 Assessment approach

Non-tariff components must be consistent with the NGO.⁷²⁸ But, otherwise, the AER has full discretion in dealing with them.⁷²⁹ The AER has considered whether each term of SP AusNet's access arrangement proposal is consistent with the NGO.⁷³⁰ The AER considers that assessing consistency with the NGO requires the AER to assess and balance the competing interests of the Service Provider, Users and consumers. In particular, the AER has considered:

- the appropriate allocation of risk
- the desirability of avoiding a prescriptive approach on commercial matters in the access arrangement.

Allocation of risk

The NGO involves the promotion of efficient investment in and efficient operation and use of natural gas pipeline services for the long term interest of consumers. The AER considers that requiring risk to be borne by the party best able to manage it promotes this objective. This is because such an approach provides the opportunity to minimise the risk, which can lead to greater efficiency and lower prices.

The AER considers that non-price terms and conditions that unduly favour a gas pipeline service provider are not consistent with the NGO. Such terms could discourage new businesses from entering the retail sector. They are also likely to increase Users' costs, which retailers would pass on to end consumers. A similar logic applies to terms and conditions that unduly favour Users. If the gas pipeline service providers face an inefficient level of risk, they are likely to pass additional costs on to the Users and consumers.

Commercial matters

The AER considers that consistency with the NGO requires terms and conditions to be sufficient to provide for a clear, legally certain and effective ongoing relationship between the parties. This becomes particularly relevant should an access dispute arise. In that scenario, the terms and conditions in the access arrangement will come into central focus.⁷³¹ The AER

⁷²⁷ SP AusNet, *Access arrangement information*, 30 March 2012, p. 253.

⁷²⁸ NGR, r. 100.

⁷²⁹ NGR, r. 40(3).

⁷³⁰ NGL, s. 23; NGR, r. 100.

⁷³¹ NGL, ss. 181, 184 and 189.

does not consider an access arrangement's terms and conditions can or need to cover every possible area of interaction between the parties.

The AER considers that SP AusNet and a User may wish to reach agreement on several aspects of their commercial relationship, separate from the access arrangement's terms and conditions. These aspects are likely to depend on the parties' particular circumstances. The AER considers that it should provide such parties with commercial flexibility to agree on terms that are relevant to their businesses and circumstances, consistent with s. 322 of the NGL. A prescriptive approach would not provide this flexibility. The AER considers that such an approach would not be consistent with the NGO.

In general, the AER considers that the terms and conditions SP AusNet has proposed are necessary for there to be a clear, effective and legally certain agreement between SP AusNet and a User.

By itself, a term may be necessary for an agreement to be clear, effective and legally certain. However, there may still be scope to adapt the language or level of detail of that term to apply to different commercial circumstances. In these cases, the AER considers that amending a term will be consistent with the NGO. Nonetheless, for commercial reasons, a User may seek to vary the wording or depth of a term. In these cases the AER considers that the proposed term should be approved. The parties can then negotiate any changes to the wording or detail of the term.

In these cases, the AER will generally avoid proposing amendments. This is particularly the case where the AER has received submissions that it considers go to the commercial form of a term, rather than its operation.

12.1.4 Reasons for decision

The following discussion focuses on the terms and conditions that the AER has concerns with and requires to be amended. Annexure D sets out the AER's reasoning with respect to proposed terms that it has accepted and submissions that it has not referred to in the following discussion.

NECF

The AER accepts the approach taken by SP AusNet to draft its proposed terms and conditions to cater for any delay in the implementation of NECF in Victoria.

NECF contains a number of provisions governing the relationship between gas distribution and retail businesses and consumers. It also contains two parts that govern the relationship between Users and Service Providers (retail support obligations).⁷³² As discussed above, the Victorian Government has deferred the adoption and implementation of NECF and these parts are not yet operative in Victoria.

⁷³² Part 5 of the National Energy Retail Rules (SA) 2012 and Part 21 of the National Gas Rules, as amended by the National Gas (National Energy Retail Law) Amendment Rules SA 2012, made pursuant to the National Energy Retail Law (South Australia) Act 2012.

The AER agrees with the approach taken by SP AusNet to draft its proposed terms and conditions to cater for any delay in the implementation of NECF in Victoria. The AER notes that this approach is consistent with the submissions made by Origin⁷³³ and APG,⁷³⁴ which support a transition to NECF once it is implemented in Victoria. The AER considers the terms and conditions that will be subject to NECF are drafted to continue to work largely unchanged for as long as the current regulatory environment continues, and to work without further amendment if and when NECF is implemented in Victoria. The AER notes that certain provisions in the access arrangement terms and conditions will automatically cease to apply and will be replaced by the relevant NECF requirements once NECF is implemented in Victoria.

In its submissions, AGL suggested that to avoid confusion over which NECF provisions are incorporated in the access arrangements, all access arrangements should incorporate NECF (with the exception of the Credit Support Regime) as if it was already in force in Victoria.⁷³⁵

The AER considers it inappropriate to require SP AusNet to implement NECF as though it had been adopted in Victoria. The Victorian government has made a decision to delay its adoption. To require SP AusNet to implement NECF as though it had been adopted in Victoria would be to act inconsistently with the policy of the Victorian Government and to pre-empt its decision.

Application of Terms and Conditions

The AER does not accept clause 5.3.1 of Part A of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 5.3.1 in accordance with Revision 12.1.

SP AusNet has proposed substantial amendments to clause 5.3.1 of Part A, which now provides that the terms and conditions, as set out in Part C of the access arrangement, only apply to a User who is a retailer. It further states that where an end user requests Reference Services from the Service Provider, then the Service Provider will negotiate with the end user other terms and conditions upon which the Service Provider will provide services to that end user, with the terms and conditions forming the starting point for any such negotiation.

The AER considers that the terms and conditions should not be limited in their application to only those Users who are retailers, but that they should apply to all Users who request reference services from the Service Provider. Rule 48(1) of the NGR requires a full access arrangement to specify for each reference service the other terms and conditions on which the reference service will be provided. Clause 5.3 is therefore inconsistent with r. 48(1) of the NGR as it would operate to limit the application of the access arrangement terms and conditions to only those reference services that are provided to retailers, and exclude their application where a reference service is provided to an end user.

While the AER recognises that the terms and conditions are largely tailored towards a User who is a retailer, the AER considers that s. 322 of the NGL operates to allow SP AusNet to

⁷³³ Origin, Victorian Gas Access Arrangement Review, 28 June 2012, p. 2.

⁷³⁴ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 1.

⁷³⁵ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

negotiate terms that are appropriate to an end user, and that reflect issues and risks specific to the direct provision of services to that end user.⁷³⁶ The terms and conditions in the access arrangement should still form the basis for any such negotiation, and therefore should continue to apply to all Users who request reference services from the Service Provider. The AER considers that this approach provides greater certainty and clarity to Users who are non-retailers, which reduces the level of risk borne by the User. The AER considers that additional risk to the User does not promote efficient investment in and operation of the network, aspects of the NGO.

The AER requires SP AusNet to amend clause 5.3.1 of Part A as follows:

- Delete all text after 'The Terms and Conditions on which the Service Provider will supply each Reference Service are set out in Part C'.

Entitlement to Refuse Service

The AER accepts clause 4.4(c) of SP AusNet's terms and conditions, but requires an additional clause be included in accordance with Revision 12.2.

Clause 4.4(c) operates so that SP AusNet is not obliged to provide distribution services if the gas the User seeks to inject does not meet the Specifications or contains material properties that may be deleterious. If such gas is injected, whether by a User or another person, SP AusNet may curtail or interrupt provision of distribution services.

The AER considers that a Service Provider has no control over the gas injected into its distribution system. Therefore, it cannot take steps to mitigate the risk of gas injected into the system that does not meet the Specifications or contains material or properties that may be deleterious. Accordingly, the AER considers the contractual term proposed by SP AusNet permitting it to take steps to protect the integrity of the Network is consistent with the NGO.

The AER considers that the addition of such an obligation is consistent with the NGO as it may increase the User's opportunity to mitigate this risk, leading to reduced costs. If a User is informed by the Service Provider that gas is being injected on its behalf that does not meet the Specifications, the User may be able to mitigate the risk by rectifying this directly with the upstream producer.

Finally, where SP AusNet takes steps such as flaring or releasing gas that has been injected on behalf of a User, this may impact on the User's ability to meet its obligations to its customers. The AER therefore considers that it is reasonable to require SP AusNet to inform the User when it takes these actions and that this is consistent with the NGO.

The AER's decision takes into account AGL's submission, which suggested that an obligation be placed on SP AusNet to notify the User as soon as reasonably practicable if SP AusNet

⁷³⁶ Section 322 of the NGL provides that: 'subject to section 135, nothing in this Law is to be taken as preventing a service provider from entering into an agreement with a user or a prospective user about access to a pipeline service provided by means of a scheme pipeline that is different from an applicable access arrangement that applies to that pipeline service'.

becomes aware that gas that does not meet the Specifications may be delivered to a delivery point.⁷³⁷

Further submissions on this clause and the AER's view of the arguments put forward are set out in Annexure D.

The AER requires SP AusNet to insert the following after clause 4.4(c):

- The Service Provider will notify the User as soon as reasonably practicable if the Service Provider becomes aware that the Gas of the type referred to in 4.4(c) is being injected.

The User's Obligations/Capacity Management

The AER does not accept clause 4.7(c) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 4.7(c) in accordance with Revision 12.3.

Clause 4.7(c) of SP AusNet's current access arrangement contains an obligation on the User to ensure that gas injected into the Distribution System complies with the Specifications. SP AusNet has proposed that, in addition to the requirement to comply with the Specifications, the User must ensure that gas injected into the Distribution System does not contain any material or have any properties deleterious to the Distribution System.

Based on the information available to the AER, it considers that requiring a User to ensure that gas does not contain any material or properties deleterious to the Distribution System is not in accordance with accepted good industry practice. The AER understands that upstream suppliers will not agree to obligations over the Specifications. The AER considers that ambiguous requirements above accepted standards will be difficult to implement. This ambiguity creates additional risk to the User, which does not promote efficient investment in and operation of the Network, aspects of the NGO.

Further, the AER considers that an obligation to ensure that gas complies with the Specifications provides SP AusNet with adequate protection, as gas that contains any material likely to be deleterious to the Network is unlikely to comply with the Specifications.

The AER's decision takes into account AGL's submission, which stated that it has no knowledge of what beyond the Specifications is appropriate (i.e. what 'material or properties' may be 'deleterious to the Distribution System') and has no control over this as upstream producers/pipeline operators will not agree to obligations over the standard Specifications.⁷³⁸

Further, the AER considers that the User should only be required to ensure that gas injected into the Distribution System on its behalf complies with the Specifications. The AER does not consider that a User should bear the risk of other Users causing gas to be injected into the Distribution System that does not comply with the Specifications, as this is a risk which the User cannot avoid or mitigate. The AER considers that limiting the scope of the requirement in clause 4.7(c) to the extent that the User can avoid or mitigate the identified risk, is

⁷³⁷ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

⁷³⁸ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment B.

consistent with the NGO, as it provides greater certainty to Users. This promotes the efficient operation of natural gas services, an aspect of the NGO.

The AER considers that its decision is supported in principle by APG's submission, which stated that Retailers can only be held responsible for actions that may be within their reasonable control to undertake. The AER considers that Users have sufficient control over the quality of gas which is injected into the distribution system on its behalf, to the extent that it complies with the Specifications, through its contractual arrangement with upstream producers. The AER therefore considers that its proposed amendment addresses APG's concern. The AER requires SP AusNet to amend clause 4.7(c) as follows:

- Delete '...and does not contain any material or have any properties deleterious to the Distribution System or to the operation of the Distribution System'.
- Insert 'on its behalf' after the words 'ensure that Gas injected into the Distribution System'.

Disconnection and Curtailment

The AER does not accept clause 6.1(b) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 6.1(b) in accordance with Revision 12.4.

Clause 6.1(b) provides that order will be determined 'in such a manner as it (SP AusNet) considers appropriate having regard to the relevant circumstances known to the Service Provider'. This consideration of what SP AusNet considers appropriate is subjective.

The AER considers that where the terms and conditions provide a party with a discretion, there should be a limitation on the extent of the discretion. This is particularly the case where the discretion is on the part of the Service Provider and there is no indication as to how that discretion might be exercised.

An unfettered discretion allows a party to act on its own belief, regardless of whether it has a reasonable basis for that belief. The AER considers that this is not consistent with the NGO because it allows an element of arbitrariness into the Agreement and creates uncertainty. This arbitrariness and uncertainty create additional risk to the User, which does not promote efficient investment in and operation of the network, aspects of the NGO. The AER's decision takes into account AGL's submission that SP AusNet should not have an unfettered discretion as to the order of curtailment, interruption and disconnection and at a minimum, it should be required to act reasonably.⁷³⁹

The AER requires SP AusNet to amend clause 6.1(b) as follows:

- Insert ', acting reasonably,' before 'determine'.

Payment and Invoicing for Services – Charges

The AER does not accept clause 7.1(b) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 7.1(b) in accordance with Revision 12.5.

⁷³⁹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment B.

Clause 7.1(b) provides that a User does not have to pay the charge where the Customer has agreed to pay directly to the Service Provider provided that this clause ceases to apply if the customer ceases to be obliged to pay. The second part of clause 7.1(b) essentially means that the first part does not apply if the conditions in the second are met.

The AER notes that the second part of clause 7.1(b) (i.e. from 'provided that' onwards) is unclear and that there is potential uncertainty in the entire clause.

Clause 7.1(b) also reflects the possibility that that under Rule 504 of the NGR, a customer may contract directly with the distributor for services.⁷⁴⁰ However, r. 504 of the NGR forms part of NECF and has not yet been adopted in Victoria.

The second part of clause 7.1(b) goes beyond what is provided for in r. 504 of the NGR. The AER considers that where SP AusNet has chosen to adopt clauses from proposed regulations, it is not consistent with the NGR for it to expand that clause beyond what is contained in the regulation. Particularly where it may potentially inconsistent with r. 504(3) of the NGR once NECF is adopted in Victoria.

AGL suggested that a reworded clause 7.1(b) be inserted. The suggested clause replaces the word 'contract' with 'an arrangement' and adds that clause 3(b) would apply in circumstances where clause 7.1(b) ceases to apply.⁷⁴¹

For the reasons outlined in Annexure D the AER has chosen not to amend clause 3(b) as suggested by AGL and therefore the suggested reference in clause 7.1(b) to clause 3(b) may not have the same effect that AGL envisaged.

The AER requires SP AusNet to amend clause 7.1(b) as follows:

- Delete '...provided that this clause (b) ceases to apply to a type of Charge and a Customer if due to termination, expiry, rescission or amendment of the contract between the Customer and the Service Provider the Customer ceases to be obliged to pay that type of Charge directly to the Service Provider.'

Distribution Services – Invoicing, Payment and Interest

The AER does not accept clause 7.4(g) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 7.4(g) in accordance with Revision 12.6.

Clause 7.4(g) deals with situations where Metering Data is not available for a Customer. In certain situations, a Service Provider may either issue an invoice based upon an Estimated Meter Reading or include the charges for that Customer for the unavailable period in a subsequent invoice.

Clause 7.4(g) allows the Service Provider to issue charges in a later invoice if the metering data for the relevant period is unavailable at the time of invoicing. However, the clause does not state when the new invoice will be issued, merely that it will occur after the data has become available.

⁷⁴⁰ SP AusNet, *Access arrangement information*, 30 March 2012, p. 257

⁷⁴¹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment B.

The AER is concerned that the current drafting of this clause does not specify a limitation on how subsequent the subsequent invoice can be. This could potentially allow a payment to be included many months in arrears, rendering reconciliation by the User difficult.

The AER considers that the charges should be invoiced no later than the second invoice after the data becomes available. This will allow the User to recover the costs of the service from the Customer while providing the Service Provider with greater certainty. The AER considers this outcome to be consistent with the NGO because it promotes the efficient operation and use of SP AusNet's gas services, aspects of the NGO.

The AER's decision takes into account Origin's suggestion that clause 7.4(g) be amended so that the charges are invoiced no later than the second invoice after the data becomes available.⁷⁴²

Further submissions on this clause and the AER's view of the arguments put forward are set out in Annexure D.

The AER requires SP AusNet to amend clause 7.4(g) as follows:

- Insert the following after "...becomes available": "but no later than the second invoice after the Metering Data becomes available."

Guaranteed Service Level Payments

The AER does not accept the deletion of clause 7.6(d) of SP AusNet's terms and conditions. The AER requires SP AusNet to reinsert clause 7.6(d) in accordance with Revision 12.6.

Clause 7.6(d) was deleted on the basis that it is not required under the National Energy Retail Rules,⁷⁴³ and it is generally unnecessary that this notification be made by a distributor to a retail business.⁷⁴⁴

The AER considers that, in view of the delay to the adoption of NECF in Victoria, clause 7.6(d) should be reinstated. The AER is concerned that if there was no obligation on a Service Provider to notify a User when it makes a Guaranteed Service Level payment, there would be a risk of double payments being made to Users. The AER considers this outcome to be consistent with the NGO because it promotes the efficient operation of natural gas services, an aspect of the NGO.

The AER's decision takes into account APG⁷⁴⁵ and AGL's⁷⁴⁶ submissions which both suggest the reinsertion of clause 7.6(d).

The AER requires SP AusNet to amend clause 7.6(d) as follows:

⁷⁴² Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5–6.

⁷⁴³ NERR, r. 84.

⁷⁴⁴ SP AusNet, *Access arrangement information*, 30 March 2012, p. 258.

⁷⁴⁵ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.

⁷⁴⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment B.

- Reinsert clause 7.6(d), which states: The Service Provider must notify the User where it makes a Guaranteed Service Level payment directly to a Customer under the Regulatory Instruments.

Provision of information concerning Class A Inquiries, Class B Inquiries and Class C Inquiries

The AER does not accept clause 9.2(c) or clause 9.2(d) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 9.2(c) in accordance with Revision 12.8, and clause 9.2(d) in accordance with Revision 12.9.

Clause 9.2 describes the obligation of Service Providers and Users concerning the provision of information on Class A, Class B and Class C inquiries, and other inquiries relating to the Distribution System. Clause 9.2(c) states that information to be provided by the Service Provider under clause 9.2(a) may be provided by being published on a website maintained by or on behalf of the Service Provider. Clause 9.2(d) provides that the User indemnifies the Service Provider against any liability to a Customer arising as a result of the User providing information to the Customer other than the information made available by the Service Provider under relevant Regulatory Instruments, or not providing information to the Customer as required under clause 9.1(h). Clause 9.2(d) is subject to the qualification that nothing in that clause renders the User liable for providing information as required under a relevant Regulatory Instrument.

Provision of information on a website

The AER considers that where a Service Provider is required to make information available to a User under clause 9.2(a), and the Service Provider elects to do so by publishing the information on its website in accordance with clause 9.2(c), then the Service Provider should be required to notify the User of any change to its website relating to the provision of such information. The AER considers that this requirement is necessary to ensure that the User is made aware of and is able to access information that a Service Provider is required to provide to it under cl 9.2(a) and the Regulatory Instruments referred to in that clause.

The AER considers that clause 9.2(c) would otherwise be inconsistent with the NGO, as it may result in a situation where a User is not made aware of information that must be made available to it under clause 9.2(a), or is not able to access the information in a timely manner. It would also be inconsistent with the intent behind clause 9.2(a) and the regulatory instruments referred to in that clause, which seek to ensure that information regarding Class A, Class B and Class C Inquiries, and other inquiries relating to the Distribution System, is made available to Users, who can in turn make the information available to customers.

The AER's decision takes into account APG's submission, which stated that clause 9.2(c) should include provision for the reasonable notification by the Service Provider to Users of changes to its website, as these may be related to emergencies and may require prompt action by retailers to protect consumer interests.⁷⁴⁷

The AER requires SP AusNet to amend clause 9.2(c) as follows:

⁷⁴⁷ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 4.

- Where the Service Provider publishes information on a website maintained by or on behalf of the Service Provider under clause 9.2(c), the Service Provider must notify the User of that website's URL.

User indemnity

The AER considers that clause 9.2(d) should include an additional qualification that nothing in the indemnity makes the User liable for disclosure of information where the Service Provider has consented to its disclosure. The AER considers that the inclusion of this carve out would clarify under what circumstances a User can disclose certain information to a customer where it is not expressly required under a relevant Regulatory Instrument. This is consistent with the NGO as it clarifies the parties obligations and ensures that Users are able to provide information to Customers where agreed to by the Service Provider, which in turn promotes the efficient operation of natural gas services.

The AER's decision takes into account SP AusNet's submission, which proposed the inclusion of the additional qualification as an alternative means of addressing Origin's concerns about clause 9.2(d).⁷⁴⁸ In its submission, Origin stated that the words 'as required under a relevant Regulatory Instrument' should be removed from clause 9.2(d), on the basis that the User may legitimately require information from the Service Provider even where this is not prescribed under the relevant regulatory instruments.⁷⁴⁹

The effect of Origin's proposed amendment is that clause 9.2(d) would be qualified by the statement that 'nothing in this clause 9.2(d) renders the User liable for providing information'. The AER does not agree with this amendment as it would operate to negate the indemnity in clause 9.2(d)(1) relating to the provision of information to a Customer by a User. While the AER recognises that a User may legitimately require information from the Service Provider, even where it is not prescribed under a relevant regulatory instrument, the AER notes that this sub-clause relates to the provision of information by a User to a customer, and therefore Origin's proposed amendment is not necessary to address this particular concern.

Further submissions on this clause and the AER's view of the arguments put forward are set out in Annexure D.

The AER requires SP AusNet to amend clause 9.2(c) as follows:

- Insert the following after 'nothing in this clause 9.2(d) renders the User liable for providing information as required under a relevant Regulatory Instrument': "or where agreed to in writing by the Service Provider."

New distribution supply points

The AER does not accept clause 9.5(k) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 9.5(k) in accordance with Revision 12.10.

Clause 9.5 outlines what information must be provided by a User to the Service Provider for each new Distribution Supply Point which the User wishes to be Connected.

⁷⁴⁸ SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, pp. 40–1.

⁷⁴⁹ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.

The AER considers that clause 9.5(k) should be amended to be consistent with the Victorian Gas Interface Protocol (GIP), which provides that the certificate of compliance number is required for Type A meter fixes and the start Work Notice Number is required for Type B meter fixes. The AER considers that this approach is consistent with the NGO as it clarifies the parties' obligations and ensures that the terms and conditions reflect current regulatory arrangements in Victoria.

The AER's decision takes into account SP AusNet's submission, which stated that it was amenable to amending clause 9.5(k) to be consistent with the GIP.⁷⁵⁰ This was in response to AGL's submission which stated that it is current practice to only provide a start work notice number where there is no certificate of compliance.⁷⁵¹

The AER requires SP AusNet to replace cl 9.5(k) with the following:

- where a Certificate of Compliance reference number is not required, a Start Work Notice number.

Assignment of and changes in reference tariffs

The AER does not accept clause 9.10 of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 9.10 in accordance with Revision 12.11.

Clause 9.10 describes the obligations of the Service Provider to notify a User, and the obligations of the User to notify affected Customers, of changes in Reference Tariffs.

The AER considers that the Service Provider should be required to advise the User of changes to Reference Tariffs within two business days of the Regulator advising the Service Provider that the changes have been verified as compliant. The AER considers that this requirement will ensure that the User is notified in a timely manner of changes to Reference Tariffs and, where the User is a retailer, is able to prepare new retail prices and satisfy its own notification requirements to customers. The AER considers that this is consistent with the NGO as it promotes the efficient operation and use of natural gas services.

The AER's decision takes into account SP AusNet's submission in response to AGL's concerns about clause 9.10(b). SP AusNet stated that it was prepared to include provision in the terms and conditions that mirror the notification requirements in the current electricity Use of System Agreements i.e. an obligation to notify Users within two business days.⁷⁵²

AGL submitted that where the Regulator advises the Service Provider that changes to Reference Tariffs have been verified as compliant, the Service Provider should notify the User immediately.⁷⁵³ While the AER considers that the Service Provider should be required to advise the User of changes to Reference Tariffs in a timely manner, the AER does not agree with AGL's proposed insertion of the word 'immediately'. The AER considers that requiring the Service Provider to advise a User of a variation to reference tariffs immediately following

⁷⁵⁰ SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, p. 42.

⁷⁵¹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

⁷⁵² SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, pp. 40–1.

⁷⁵³ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

notification by the Regulator would impose a very high standard on the Service Provider. The AER considers a preferable alternative that will allow the Service Provider sufficient flexibility to account for extenuating circumstances and provide greater clarity to the parties is to prescribe an appropriate timeframe within which the Service Provider must notify the User of changes in Reference Tariffs.

The AER requires SP AusNet to replace clause 9.10(b) with the following:

- Where the Regulator advises the Service Provider that changes to Reference Tariffs have been verified as compliant by the Regulator, the Service Provider must notify the User within two business days of any changes that will occur to Reference Tariffs in accordance with the Reference Tariff Policy.

Force Majeure Notice

The AER does not accept clause 10.3(b) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 10.3(b) in accordance with Revision 12.12.

The AER considers that where a r. 100⁷⁵⁴ notice (unplanned interruption) is intended to act as a force majeure notice, this should be made clear by the Service Provider. The AER also considers that such a notice should contain the same details as a force majeure notice. A force majeure event has consequences for the parties' obligations and it is important that a party receiving a force majeure notice is aware that it is such a notice. Accordingly, the AER considers that a party issuing a force majeure notice should make clear that it is such a notice.

The AER considers that the approach of requiring a r. 100 notice, that is also intended to operate as a force majeure notice, to state that it is also a force majeure notice will avoid any potential uncertainty. This uncertainty creates unnecessary risk to the User, which is a cost. This does not promote an efficiently operating system, an aspect of the NGO.

The AER requires SP AusNet to amend clause 10.3(b) as follows:

- Insert the following after "...the Service Provider will issue a notice which complies with the requirements of the relevant regulatory instrument": "specifying that it is also a force majeure notice and containing full particulars of the force majeure event."

Consultation prior to Disconnection

The AER does not accept clause 11.2(c) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 11.2(c) in accordance with Revision 12.13.

Clause 11.2 sets out the obligations of the Service Provider and the User to consult prior to the Service Provider disconnecting a customer. Clause 11.2(c) states that the Service Provider may take action to disconnect a customer without notifying or consulting with the User, where the disconnection is due to an Emergency, is undertaken due to a direction or order of an Authority or where relevant Regulatory Instruments require or allow the Disconnection.

⁷⁵⁴ NERR, r. 100

The AER considers that the words 'without notifying the User' should be inserted at the end of clause 11.2(c) to clarify that the Service Provider can only rely on Regulatory Instruments that require or allow the disconnection without notification. The AER does not consider that the Service Provider should be permitted to disconnect a customer without notifying or consulting with the User in every situation where the disconnection is allowed or required under a relevant Regulatory Instrument. This would be inconsistent with the overall intent behind the notification and consultation provisions in clause 11.2. The AER considers that the Service Provider should only be permitted to disconnect a customer without first consulting with a User in certain exceptional circumstances, or where expressly permitted to do so under a Regulatory Instrument.

The AER considers that the proposed amendment to clause 11.2(c) ensures that in most circumstances the Service Provider will notify a User prior to disconnecting a customer, and follow the consultation process set out in clause 11.2(a) and (b). This also allows the Service Provider and the User to agree on the procedure to be followed in effecting the Disconnection and the charges to be incurred by the User. The AER considers that a requirement to notify the User of a disconnection, except in limited circumstances, promotes the efficient operation and use of natural gas services, an aspect of the NGO.

The AER's decision takes into account APG's submission, which proposed the same amendment to clause 11.2(c).⁷⁵⁵ It is also supported by SP AusNet's submission in response to APG's proposed amendment.⁷⁵⁶

The AER requires SP AusNet to amend clause 11.2(c) as follows:

- Insert the following words at the end of clause 11.2(c): "without notifying the User."

Indemnity by the User

The AER does not accept clause 13.5(c) of SP AusNet's terms and conditions. The AER requires SP AusNet to delete clause 13.5(c) as set out in Revision 12.14.

Clause 13.5 describes the circumstances under which the User indemnifies the Service Provider. Clause 13.5(c) states that the User indemnifies the Service Provider against any revenue which, by virtue of clause 508(1) of the National Gas Rules, the Service Provider is unable to collect because of the act or omission of the User.

The AER does not agree with the inclusion of clause 13.5(c) in SP AusNet's proposed terms and conditions. Rule 508(1) of the NGR provides that if a retailer is not permitted to recover distribution service charges from a shared customer under the National Energy Retail Law (NERL) or the National Energy Retail Rules (NERR), then neither is the distributor permitted to recover those charges from the retailer. Rule 508(1) will be introduced into the NGR with the commencement of NECF and therefore will not apply until NECF is implemented in Victoria. The AER considers that clause 13.5(c) would allow SP AusNet to circumvent the operation of r. 508(1) in anticipation of the commencement of NECF, by requiring the User to

⁷⁵⁵ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012.

⁷⁵⁶ SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, p. 43.

indemnify the Service Provider for any revenue which it cannot recover by virtue of r. 508(1), where it is due to the User's act or omission.

The AER considers that to ensure consistency with the NGO, the terms and conditions of an access arrangement should reflect and support the operation of relevant regulatory instruments. The regulatory framework has been designed to ensure the efficient operation of natural gas services, having regard to the long term interests of consumers, and therefore should not be circumvented via the terms and conditions of an access arrangement.

The AER's decision takes into account AGL and Origin's submissions, which proposed deleting clause 13.5(c) on the basis that it seeks to make Users liable for loss of revenue of the Service Provider that it would be prohibited from recovering under r. 508 of the NGR.⁷⁵⁷ APG also considered that 13.5(c) should be amended to limit its application to situations where the Service Provider is unable to collect revenue due to the negligent act or omission of the User.⁷⁵⁸

SP AusNet was not amenable to amending clause 13.5(c). SP AusNet did not agree with APG and argued that there may be scenarios where the User is not negligent but where the Service Provider should not be prevented from recovering charges, for example, where the User decides not to invoice a customer.⁷⁵⁹ In response to Origin and AGL's submissions, SP AusNet argued that it would be unfair if a Service Provider is precluded from recovering charges by operation of r. 508 of the NGR, where a User cannot recover charges due to its own act or omissions.⁷⁶⁰ SP AusNet stated that the clause is not seeking to abrogate r. 508 of the NGR, but simply to ensure Users both recover legitimate charges from customers and do not seek to use r. 508 as a means to deny Service Providers legitimate charges.

The AER acknowledges SP AusNet's argument that it would be unfair to preclude a Service Provider from recovering charges where a User cannot recover the charges due to its own act or omission. However, the AER notes that s. 508(1) of the NGR only precludes a distributor from recovering charges where the retailer is not permitted to recover those charges under the NERL or the NERR. Section 508(1) of the NGR does not, therefore, apply to all circumstances where a User is unable to recover distribution service charges from a customer. The AER does not agree with SP AusNet's submission on the basis that this clause is inconsistent with the NGO, as it seeks to circumvent the operation of s. 508(1) of the NGR in anticipation of the commencement of NECF in Victoria.

The AER requires SP AusNet to delete clause 13.5(c).

Exemption of liability

The AER does not accept clause 13.6(a) of SP AusNet's terms and conditions. The AER requires SP AusNet to amend clause 13.6(a) in accordance with Revision 12.15.

⁷⁵⁷ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6; AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

⁷⁵⁸ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012.

⁷⁵⁹ SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, pp. 45–6.

⁷⁶⁰ SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, p. 46.

Clause 13.6 describes the circumstances under which a party will not be liable to the other party. Clause 13.6(a) provides that the Service Provider is not liable to any penalty or damages for failing to convey Gas through the Distribution System if the failure arises out of any accident or cause beyond the Service Provider's control.

The AER considers that the exemption in clause 13.6(a) should only apply to the extent that the failure to convey Gas through the Distribution System arises out of any accident or cause beyond the Service Provider's control. Where there are multiple causes for the Service Provider's failure to convey Gas to a User, or where the Service Provider fails to take action which it could reasonably take to mitigate the risk that it will be unable to convey gas, then the Service Provider should be liable to the extent that the failure was within its control.

The AER also considers that the clause should be amended to clarify that the exemption only applies to an accident that is also beyond the Service Provider's control. As the clause is currently drafted, there is some ambiguity around whether the 'accident' as well as the 'cause' must be beyond the Service Provider's control. The AER does not consider that the Service Provider should be exempt from liability for a failure to convey gas, where the failure is due to an accident which was within the Service Provider's power to avoid or to mitigate.

In summary, the AER considers that the above amendments to clause 13.6(a) are consistent with the NGO as they operate to ensure that the Service Provider bears the risk of failing to convey gas through the distribution system where it is able to avoid or mitigate that risk. The AER considers that this will incentivise the Service Provider to take active steps to avoid or mitigate this risk, which in turn promotes the efficient operation of natural gas services, an aspect of the NGO.

The AER's proposed amendment to clause 13.6(a) is supported in part by AGL's submission, which stated that for the purposes of legal clarity, the exemption in clause 13.6(a) should only apply to the extent that the failure arises out of any accident.⁷⁶¹ SP AusNet also stated that it was amenable to this aspect of the proposed revision to clause 13.6(a).⁷⁶²

Further submissions on this clause and the AER's view of the arguments put forward are set out in Annexure D.

The AER requires SP AusNet to replace clause 13.6(a) with the following:

- The Service Provider is not liable to any penalty or damages for failing to convey Gas through the Distribution System to the extent that the failure arises out of any accident or cause, where that accident or cause is beyond the Service Provider's control.

Amendment to an Agreement

The AER does not accept clause 19.2(b) or clause 19.2(c) of SP AusNet's terms and conditions. The AER requires SP AusNet to delete 19.2(b) in accordance with Revision 12.16, and amend clause 19.2(c) in accordance with Revision 12.17.

⁷⁶¹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

⁷⁶² SP AusNet/Multinet, Response to retailer submissions, 20 July 2012, p. 48.

Clause 19.2(b) provides that it is the intention of the Service Provider and the User that the terms of this Agreement are at all times the same as the Reference Service Terms.

The AER considers that the ability for a Service Provider and User to negotiate the most appropriate agreement for their commercial circumstances is consistent with a competitive market outcome, which can drive efficiencies, an aspect of the NGO. The AER considers that the clause 19.2(b) acts to restrict the ability of the parties to negotiate and limits their commercial flexibility, which may impede competition at the retail level. SP AusNet's proposed term is therefore not consistent with the NGO.

The AER also notes that s. 322 of the NGL provides that nothing in the NGL is to be taken as preventing a Service Provider from entering into an agreement that is different from an applicable access arrangement that applies to that pipeline service.

The AER requires SP AusNet to delete clause 19.2(b).

The AER considers that clause 19.2(c) has the effect of providing for an automatic variation to the Agreement when there is a change to the Reference Service Terms.

The AER considers that the parties should have the flexibility to consider adopting changes to the Reference Service Terms, but that the automatic adoption of any changes could lead to terms they had agreed to exclude from the Agreement being included by the operation of clause 19.2(c).

The AER considers that it is important to make it clear that any amendment to the Agreement will require the written agreement of both parties.

The AER is concerned that a term providing for the automatic variation of the Agreement has potential to cause uncertainty and confusion. This uncertainty creates additional risk to the User, which does not promote efficient investment in and operation of the network, an aspect of the NGO

AGL submits that clauses 19.2(b)-(d) are superfluous and appear to enable the Service Provider to unilaterally change the terms. AGL proposed that the terms should therefore be deleted.⁷⁶³

The AER does not consider that clause 19.2(c) allows SP AusNet to unilaterally vary the Agreement, as submitted by AGL. Rather, the clause provides for an automatic variation to the Agreement when there is a change to the Reference Service Terms. However, the AER considers that this clause should be amended. For the reasons set out above, the AER does not consider that a clause that provides for the automatic variation of the Agreement is consistent with the NGO.

The AER requires SP AusNet to amend clause 19.2(c) as follows:

- Replace 19.2(c) with the following:

⁷⁶³ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

If during the course of the Agreement, there are any additions or variations to the Reference Service Terms, the parties may agree in writing to amend the Agreement to adopt any of the new or varied Reference Service Terms.

12.2 Capacity trading requirements

The capacity trading requirements of an access arrangement may allow a user to transfer, by way of a subcontract, all or any of the user's contracted capacity to another user.⁷⁶⁴ In doing so, it may enable a secondary market with more efficient price signals and levels of usage.

The NGR provides that capacity trading requirements are to be included in a full access arrangement.⁷⁶⁵ Relevantly, the NGR requires that capacity trading requirements must provide for capacity transfers in accordance with the rules or procedures of the relevant gas market, if the service provider is registered as a participant in a particular gas market.⁷⁶⁶

12.2.1 AER decision

To ensure that the access arrangement is consistent with the NGR, the AER requires SP AusNet to amend its proposal to state that there are no applicable capacity trading requirements for the purposes of rule 48(1)(f) or 105(1) of the NGR.

The AER requires SP AusNet to amend clause 5.7 of its proposed access arrangement in accordance with Revision 12.18.

12.2.2 Access arrangement proposal

SP AusNet's proposal states it does not provide for capacity trading on its distribution system.⁷⁶⁷ SP AusNet states that this is in accordance with r. 105(1) of the NGR and the Declared Wholesale Gas Market Rules⁷⁶⁸ to which it is subject and which do not provide for capacity trading.

12.2.3 Assessment approach

The AER has assessed SP AusNet's capacity trading requirements against the NGR and rules 48(1)(f) and 105 of the NGR.

12.2.4 Reasons for decision

Capacity trading is not possible on the Victorian gas network (including on SP AusNet's distribution network). This is different to most Australian gas markets, which are based on

⁷⁶⁴ NGR, r. 105(2).

⁷⁶⁵ NGR, r. 48(1)(f).

⁷⁶⁶ NGR, r. 105(2).

⁷⁶⁷ SP AusNet, *Access arrangement proposal: Part A*, 30 March 2012, clause 5.7.

⁷⁶⁸ These are contained in Part 19 of the NGR.

bilateral arrangements between producers, major users and retailers linked together through pipeline hubs connecting gas fields to gas consumers.⁷⁶⁹

By comparison, in Victoria a wholesale gas market has been established to enable competitive trading based on injections into and withdrawals from a transmission system that links multiple producers, major users and retailers.⁷⁷⁰ Under this model, Victorian gas networks (including SP AusNet's distribution network) are subject to the Declared Wholesale Market Rules in part 19 of the NGR, which do not provide for capacity trading. Rather, AEMO is responsible for managing capacity, on a daily basis, throughout the Victorian wholesale gas market.⁷⁷¹

Capacity trading is therefore not applicable to SP AusNet's network.

Despite the practical situation, the NGR require that the access arrangement include capacity trading requirements. The AER considers that SP AusNet's access arrangement may meet this requirement by specifying that there are no applicable capacity trading requirements.

12.3 Queuing arrangements

Queuing can be used to determine access to a pipeline that is fully, or close to being fully, utilised. 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.⁷⁷² Queuing requirements establish a process or mechanism for establishing an order of priority between prospective users of spare and/or developable capacity.

In a distribution pipeline new users will typically be able to be accommodated because, unlike transmission pipelines, distribution networks do not operate close to full capacity. If use at one point in the network is nearing capacity, augmentation of the network will normally be undertaken to meet the needs of prospective users. Further, the capacity of SP AusNet's distribution pipelines are managed by AEMO on a daily basis under Part 19 of the NGR (Declared Wholesale Market Rules) meaning that queuing arrangements are unnecessary (there is no queue).

Despite this practical situation, queuing requirements must be included in an access arrangement for a gas distribution pipeline where the AER notifies the service provider that the access arrangement must contain queuing arrangements.⁷⁷³ Where there are queuing requirements they must establish a process or mechanism (or both) for establishing an order of priority between prospective users of spare or developable capacity (or both) in which all

⁷⁶⁹ This model is sometimes referred to as a contract carriage model.

⁷⁷⁰ This model is sometimes referred to as a market carriage model. Australian Energy Market Operator, Victorian Wholesale Market, see: <http://www.aemo.com.au/en/Gas/Wholesale-Gas-Markets/Victorian-Wholesale-Market>, accessed 30 July 2012.

⁷⁷¹ In accordance with the rules in Part 19 of the NGR.

⁴⁸ NGL, s. 2.

⁷⁷³ NGR, r. 103(1)(b). Clause 14.2 of the Regulation Information Notice issued by the AER to SP AusNet on the 13 February 2012, notified SP AusNet that its access arrangement proposal must provide details of its queuing arrangements.

prospective users (whether associates of, or unrelated to, the service provider) are treated on a fair and equal basis.⁷⁷⁴

12.3.1 AER decision

The AER accepts SP AusNet's proposal in so far as it relates to new connections/modifications and does not include queuing requirements in relation to spare capacity. Nevertheless, for the sake of clarity the AER requires that SP Aus Net relabel clause 5.5 of its proposal from 'Queuing policy' to 'New connections and modifications' since this clause does not relate to a queuing policy in relation to capacity as the current heading would indicate.

12.3.2 Access arrangement proposal

SP AusNet's proposal includes a queuing policy (which is subject to its extensions and expansions policy) for requests for new connections or modifications to existing connections.⁷⁷⁵ However, this policy relates to requests for new connections or modifications to connections and does not relate to capacity as described above.

12.3.3 Assessment approach

The AER has assessed SP AusNet's queuing requirements against the NGO and rules 48(1)(e) and 103 of the NGR.

12.3.4 Reasons for decision

As the capacity of SP AusNet's distribution pipeline is managed by AEMO under Part 19 of the NGR, queuing arrangements are not applicable. To avoid confusion the heading to clause 5.5 of the proposal should be changed from 'queuing policy' to 'new connections and modifications'

12.4 Extension and expansion requirements

Extension and expansion requirements included in an access arrangement specify the method for determining whether extensions or expansions to the covered pipeline are to be covered by the access arrangement.⁷⁷⁶ When the extension or expansion is covered by the access arrangement, the requirements included in the proposal must deal with the effect of the extension or expansion on tariffs.⁷⁷⁷

Extension and expansion requirements must be included in an access arrangement.⁷⁷⁸ Extension and expansion requirements may state whether the applicable access arrangement will apply to incremental services to be provided as a result of a particular extension to, or

⁷⁷⁴ NGR, 103(2).

⁵¹ SP AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.5.

⁵² NGR, r. 104(1).

⁵³ NGR, r. 104(2).

⁵⁴ NGR, r. 48(1)(g).

expansion of the capacity of, the pipeline or outline how may be dealt with at a later time.⁷⁷⁹ If the requirements provide that an access arrangement applies to incremental services, the requirements must deal with the effect of the extension or expansion on tariffs.⁷⁸⁰

12.4.1 AER decision

The AER does not accept SP AusNet's extensions and expansions policy. The AER requires SP AusNet to amend its proposal so that all low and medium pressure pipelines are covered by the access arrangement by default. Whenever SP AusNet builds a high pressure pipeline extension to its distribution network, it must notify the AER and the AER will decide on a case-by-case basis whether the pipeline should be covered by the access arrangement. The AER considers that these changes will promote the efficient investment in and efficient use and operation of gas services, while promoting the long term interest of consumers with respect to price, each an aspect of the NGO.

12.4.2 Access arrangement proposal

SP AusNet's proposal is largely unchanged from the access arrangement 2008–13 in relation to its extension or expansion requirements.

The proposal states that an extension or expansion to the distribution system will be covered by the access arrangement where that extension or expansion is owned by SP AusNet. However, an extension will not be covered by the access arrangement where:

- it is considered by the service provider to be a significant extension (this is defined as an extension which will service a minimum of 5000 customers) and the service provider gives written notice to the AER before the extension comes into service that the extension will not form a part of the access arrangement; or
- where the extension is not a significant extension (services less than 5000 customers), and the AER agrees;

unless the extension was included in the calculation of the reference tariffs.⁷⁸¹

Clause 5.6.2 of SP AusNet's access arrangement proposal describes the effect of an extension or expansion on reference tariffs. Clause 5.6.3 describes SP AusNet's policy for extensions to unreticulated townships where the extension was not included in the calculation of the reference tariffs or the subject of a competitive tender.

12.4.3 Assessment approach

The AER has assessed SP AusNet's extension and expansion requirement against the NGO and rules 48(1)(g) and 104 of the NGR.

12.4.4 Reasons for decision

The AER does not accept SP AusNet's proposed extensions and expansions policy.

⁷⁷⁹ NGR, r. 104(1).

⁵⁶ NGR, r. 104(2).

⁵⁷ SP AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.6.1.

In particular, the AER does not accept SP AusNet's proposal that the access arrangement does not apply to incremental reference services provided by a 'significant extension' where SP AusNet has given written notice to the AER that it will not form part of the access arrangement.

Coverage – high pressure pipelines

The AER considers that all extensions to high pressure pipelines should be assessed on a case-by-case basis for coverage—consistent with its previous AER decisions.⁷⁸² The AER will be better placed to consider such matters at the time it is notified of a proposed high pressure pipeline extension. There could be many different factors that would impact on whether a high pressure pipeline extension should be covered and whether it should be covered by the same terms as the original pipeline. For example:

- High pressure pipelines have similar characteristics to transmission pipelines, and could be used either as viable bypass options to end users, or to support the existing network. In this instance, the extension could lead to some competition for pipeline services—meaning that it may not be necessary for the extension to be covered.
- The pipeline can be extended for a variety of reasons such as servicing a large industrial user requiring the network to be extended to its premises or supporting the distribution network generally. Where it is supporting the distribution network generally it may be appropriate for the extension to be covered on the same terms as the original network. Non coverage could lead to cross-subsidisation.
- Therefore, the reasons for the extension and the degree of its integration into the existing network will assist in determining whether the extension should be covered.

Pipelines that potentially extend to new parts of the market warrant consideration by the AER. New areas outside the current geographic reach of the network will be more likely serviced by high pressure pipelines. The AER accordingly considers that if a high pressure pipeline extension is planned, then an application should be made to the AER for a decision as to whether or not the extension is part of the covered pipeline. The use of 'high pressure' provides a means of generally distinguishing in-fill from new extensions to areas and customers.

The AER considers that a case by case assessment approach for the coverage of high pressure pipelines has the benefit of promoting the efficient investment in and the efficient operation and use of natural gas services for the long term interests of consumers of natural gas in accordance with the national gas objective.⁷⁸³ Such an approach provides flexibility to deal with the particular circumstances.

The AER considers that an extension and expansion policy that:

- provides for a requirement that SP AusNet notify the AER where it proposes to build a high pressure extension to its network

⁵⁸ For example: AER, Jemena Gas Network draft decision, February 2010, pp. 348–350; AER, ActewAGL draft decision, November 2009, pp. 185–186; AER, Country Energy draft decision, November 2009, pp. 140–141. Envestra Ltd Access arrangement proposal for the SA gas network 1 July 2011–30 June 2016, draft decision, June 2011, pp. 241–245.

⁷⁸³ NGL, s. 23.

- enables the AER to make such a decision with respect to the coverage of the high pressure pipeline

is more consistent with the NGO and is a preferable alternative to SP AusNet's proposal.

Coverage – low and medium pressure pipelines

The AER considers that all low and medium pressure pipeline extensions should be covered by the access arrangement. Low and medium pressure pipeline extensions to distribution networks are often embedded in and occur throughout the network. Coverage by default will allow such extensions to be built and covered by the access arrangement. Default coverage will provide regulatory efficiency through the avoidance of multiple and frequent applications for small extensions. This is likely to contribute to the promotion of the 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 safety, reliability and security of supply of natural gas.⁷⁸⁴ For these reasons, the AER considers that all low and medium pipeline extensions should be covered by default.

Coverage – expansions

The AER proposes to accept SP AusNet's proposal that all expansions to its distribution network will be covered by the access arrangement. Network expansions involve the augmentation of pipeline capacity within the existing network, and are likely to be used largely by existing network customers. Relative to network extensions, they are much less likely to serve a new or isolated customer or group of customers as a bypass option. As such, it is appropriate that any network expansions are covered as reference services under the access agreement. This provides certainty to end users.

The AER considers that coverage on this basis would promote the efficient investment in, operation and use of natural gas services, which are aspects of the NGO.

Effect of extension / expansion on reference tariffs

The AER proposes to accept SP AusNet's proposal in relation to the effect of an extension and expansion on reference tariffs. The AER considers that this element of the proposal is consistent with the NGR.

12.5 Terms and conditions for changing receipt or delivery points

A receipt or delivery point is a point on a pipeline at which a service provider takes delivery of natural gas, or delivers natural gas.⁷⁸⁵ A user may wish to change the point at which they receive or take delivery of natural gas.

The terms and conditions for changing receipt and delivery are to be included in a full access arrangement.⁷⁸⁶ Under the NGR an access arrangement must allow a user, with the service provider's consent, to change the user's receipt or delivery point. The access arrangement

⁷⁸⁴ NGL, s. 23.

⁷⁸⁵ NGR, r. 3.

⁷⁸⁶ NGR, r. 48(h).

must not allow a service provider to withhold its consent unless it has reasonable grounds, based on technical or commercial considerations, for doing so.⁷⁸⁷ The access arrangement may specify conditions under which consent will or will not be given to be complied with if consent is given.⁷⁸⁸

12.5.1 AER decision

The AER accepts SP AusNet's proposal in relation to a change of receipt or delivery point.

12.5.2 Access arrangement proposal

SP AusNet proposes that any change to a receipt or delivery point on the distribution system will require the consent of the service provider, but that consent will not be withheld unless there are reasonable technical or commercial grounds for withholding consent.⁷⁸⁹ However, SP AusNet's proposal states that as the only receipt points on the distribution system are custody transfer points between the distribution system and other networks, it is unlikely the SP AusNet would consent to a request to change a receipt point.⁷⁹⁰ The proposal states that requests for changes to any customer distribution supply point will be considered on a case-by-case basis, subject to technical or commercial feasibility, and will continue to be offered as a service other than a reference service.⁷⁹¹

12.5.3 Assessment approach

The AER has assessed SP AusNet's terms and conditions for changing receipt and delivery points against the NGO and rules 48(1)(h) and 106 of the NGR.

12.5.4 Reasons for decision

Allowing a user to change its receipt/delivery points may allow users to respond more efficiently to demand and encourage the more efficient use of gas, which are aspects of the NGO. Additionally, the NGR states that an access arrangement must not allow a service provider to withhold its consent unless it has reasonable grounds, based on technical or commercial considerations, for doing so.⁷⁹²

SP AusNet states that 'consent will always be given on the basis that it is safe to do so, the movement is consistent with technical standards and requirements and that the cost of undertaking the work is reimbursed to SP AusNet by the retailer or the customer.'⁷⁹³ The AER considers this is consistent with r. 106 of the NGR and proposes to accept SP AusNet's proposal in relation to a change of receipt or delivery point.

⁷⁸⁷ NGR, r. 106(1).

⁷⁸⁸ NGR, r. 106(2).

⁷⁸⁹ AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.8.1.

⁷⁹⁰ SP AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.8.2.

⁷⁹¹ SP AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.8.3.

⁷⁹² NGR, r. 106(1)

⁷⁹³ SP AusNet, Access arrangement information, 30 March 2012, p. 251.

12.6 Review dates

Rule 49(1) of the NGR requires that a full access arrangement that is not voluntary must contain a review submission date and a revision commencement date and must not contain an expiry date.

The NGR provides that, as a general rule:

- a review submission date will fall 4 years after the access arrangement took effect or the last revision commencement date; and
- a revision commencement date will fall 5 years after the access arrangement took effect of the last revision commencement date.⁷⁹⁴

The AER is required to accept a service provider's proposed review submission and commencement dates if these are made in accordance with the general rule set out in r. 50 of the NGR.⁷⁹⁵ It may also approve dates that do not conform to the general rule if it is satisfied that the dates are consistent with the national gas objective and the revenue and pricing principles.⁷⁹⁶

12.6.1 AER decision

The AER proposes to accept SP AusNet's proposed revision commencement date but not its review submission date.

The AER requires SP AusNet to amend clauses 5.9.1 of its proposed access arrangement in accordance with Revision 12.21.

12.6.2 Access arrangement proposal

SP AusNet proposed a review submission date on or before 30 March 2017 and a revision commencement date on the later of 1 January 2018 and the date on which the AER's approval of the revisions to the access arrangement takes effect under the NGR.⁷⁹⁷

SP AusNet's access arrangement proposal did not include a trigger event for the acceleration of the review submission date.

12.6.3 Assessment approach

The AER has assessed SP AusNet's review submission and expiry date against the NGR and rules 48(1)(i) and 48(1)(j) of the NGR.

⁷⁹⁴ NGR, r. 50.

⁷⁹⁵ NGR, r. 50(2).

⁷⁹⁶ NGR, r. 50(4).

⁷⁹⁷ SP AusNet, Access arrangement proposal: Part A, 30 March 2012, clause 5.9.

12.6.4 AER considerations

The revision commencement date is consistent with the general rule and the AER proposes to accept it. The review submission date of 30 March 2017 proposed by SP AusNet is later than the 1 January 2017 date indicated by the general rule under r. 50(1) of the NGR and the AER proposes not to accept it.

12.7 Revisions

The AER requires the following revisions to be made to the non-tariff components of SP AusNet's access arrangement:

Revision 12.1: Amend clause 5.3.1 of Part A as follows:

Delete all text after 'The Terms and Conditions on which the Service Provider will supply each Reference Service are set out in Part C'.

Revision 12.2: Amend clause 4.4 as follows:

Insert the following clause as 4.4(d):

The Service Provider will notify the User as soon as reasonably practicable if the Service Provider becomes aware that the Gas of the type referred to in 4.4(c) is being injected.

Revision 12.3: Amend clause 4.7(c) as follows:

Delete the following:

...and does not contain any material or have any properties deleterious to the Distribution System or to the operation of the Distribution System...

Insert the following after the words 'ensure that Gas injected into the Distribution System':

on its behalf

Revision 12.4: Amend clause 6.1(b) as follows:

Insert 'acting reasonably' before 'determine'.

Revision 12.5: Amend clause 7.1(b) as follows:

Delete the following:

...provided that this clause (b) ceases to apply to a type of Charge and a Customer if due to termination, expiry, rescission or amendment of the contract between the Customer and the Service Provider the Customer ceases to be obliged to pay that type of Charge directly to the Service Provider.

Revision 12.6: Amend clause 7.4(g) as follows:

Insert the following after "...becomes available":

, but no later than the second invoice after the Metering Data becomes available.

Revision 12.7: Amend clause 7.6 as follows:

Reinsert clause 7.6(d), which states:

The Service Provider must notify the User where it makes a Guaranteed Service Level payment directly to a Customer under the Regulatory Instruments.

Revision 12.8: Amend clause 9.2(c) as follows:

Insert the following sub-clause following clause 9.2(c):

Where the Service Provider publishes information on a website maintained by or on behalf of the Service Provider under clause 9.2(c), the Service Provider must notify the User of that website's URL.

Revision 12.9: Amend clause 9.2(d) as follows:

Insert the following after 'nothing in this clause 9.2(d) renders the User liable for providing information as required under a relevant Regulatory Instrument':

or where agreed to in writing by the Service Provider

Revision 12.10: Amend clause 9.4(k) as follows:

Replace clause 9.4(k) with the following:

Where a Certificate of Compliance reference number is not required, a Start Work Notice number.

Revision 12.11: Amend clause 9.10(b) as follows:

Replace clause 9.10(b) with the following:

Where the Regulator advises the Service Provider that changes to Reference Tariffs have been verified as compliant by the Regulator, the Service Provider must notify the User within two business days of any changes that will occur to Reference Tariffs in accordance with the Reference Tariff Policy.

Revision 12.12: Amend clause 10.3(b) as follows

Insert the following after "...the Service Provider will issue a notice which complies with the requirements of the relevant regulatory instrument":

, specifying that it is also a force majeure notice and containing full particulars of the force majeure event.

Revision 12.13: Amend clause 11.2(c) as follows:

Insert the following word at the end of clause 12.2(c):

without notifying the User.

Revision 12.14: Delete clause 13.5(c).

Revision 12.15: Amend clause 13.6(a) as follows:

Replace clause 13.6(a) with the following:

The Serviced Provider is not liable to any penalty or damages for failing to convey Gas through the Distribution System to the extent that the failure arises out of any accident or cause, where that accident or cause is beyond the Service Provider's control.

Revision 12.16: Delete clause 19.2 (b).

Revision 12.17: Amend clause 19.2(c) as follows:

Replace clause 19.2(c) with the following:

If during the course of the Agreement, there are any additions or variations to the Reference Service Terms, the parties may agree in writing to amend the Agreement to adopt any of the new or varied Reference Service Terms.

Revision 12.18: Amend clause 5.7 of the proposed access arrangement to include the following:

There are no applicable capacity trading requirements for the purposes of rules 48(1)(f) or 105(1) of the NGR.

Revision 12.19: Relabel clause 5.5 of the proposed access arrangement so that the heading reads 'New connections and modifications'.

Revision 12.20: Replace clause 5.6.1 of the proposed access arrangement with the following:

5.6.1 Extensions

High pressure extensions

If SP AusNet proposes a high pressure pipeline Extension of the covered pipeline, it must apply to the AER in writing to decide whether the proposed Extension will be taken to form part of the covered pipeline and will be covered by this Access Arrangement.

A notification given by SP AusNet under this clause 5.6.1 must:

- a) be in writing;
- b) state whether SP AusNet intends for the proposed high pressure pipeline Extension to be covered by this Access Arrangement;
- c) describe the proposed high pressure Extension and describe why the proposed Extension is being undertaken; and
- d) be given to the AER before the proposed high pressure pipeline extension comes into service.

SP AusNet is not required to notify the AER under this clause 5.6 to the extent that the cost of the proposed high pressure pipeline Extension has already been included and approved by the AER in the calculation of the Reference Tariffs.

After considering SP AusNet's application, and undertaking such consultation as the AER considers appropriate, the AER will inform SP AusNet of its decision on SP AusNet's proposed coverage approach for the high pressure pipeline extension.

The AER's decision referred to above may be made on such reasonable conditions as determined by the AER as will have the effect stated in the decision.

Other extensions and expansions

Any Extensions to the Distribution System which are not high pressure pipeline Extensions within the meaning of this clause will be covered by this Access Arrangement. Any Expansions in the Distribution System will be covered by this Access Arrangement.

Revision 12.21: Amend clause 5.9.1 of the proposed access arrangement as follows:

5.9.1 SP AusNet will submit revisions to this Access Arrangements to the AER on or before 1 January 2017.



**Access arrangement draft decision
SPI Networks (Gas) Pty Ltd
2013–17**

**Part 3
Appendices**

September 2012

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A – Capital expenditure is a confidential appendix

B Rate of return

In attachment 4, the AER presented its considerations on why a rate of return of 7.16 per cent (subject to updating) is a preferable alternative that is commensurate with prevailing conditions in the market for funds.¹ It noted this appendix would address some matters including arguments raised by SP AusNet and further technical analysis of the evidence.

B.1 Risk free rate

In attachment 4.3.2, the AER presented why a risk free rate based on 10 year CGS measured as close as practically possible to the commencement of the regulatory period is the most appropriate.

This appendix discusses additional material relevant to the risk free rate:

- the selection of an appropriate averaging period
- contentions raised in the CEG report submitted by SP AusNet
- a long term average as an alternative averaging period
- the term of the risk free rate
- the EnergyAustralia matter
- the Telstra matter
- the expectations theory on the term structure of interest rates.

B.1.1 The selection of an appropriate averaging period

In attachment 4 the AER noted that there would be further discussion of SP AusNet's proposal in this appendix. This section contains that discussion.

In its access arrangement proposal, SP AusNet proposed the use of a short averaging period for the cost of debt. But, SP AusNet did not specify when the averaging period would occur. SP AusNet stated that it would lodge a separate and confidential request with the AER to agree, prior to the final decision, the averaging period for setting the cost of debt.² The AER had previously outlined in a letter to SP AusNet that it considered the nomination of an averaging period an integral part of a complete access arrangement proposal.³

On 5 April the AER sent a letter to SP AusNet to formalise an agreement for nominating an averaging period. The AER proposed the following conditions:

1. At the time of publishing SP AusNet's proposal the AER will publish an indicative timeline for decisions.

¹ R. 87(1), NGR

² SP AusNet, *Access arrangement information*, March 2012, p.186.

³ AER, *Letter to SP AusNet*, 8 December 2011.

2. The AER will notify SP AusNet, at least 20 business days before and not more than 25 business days before, the release of its draft decision on the revisions to the SP AusNet access arrangement, of the date on which that draft decision is expected to be released and the date on which the final decision is expected to be released.

3. Not later than 10 business days following the AER's notification, SP AusNet undertakes to advise the AER of its nominated averaging period. SP AusNet's nominated averaging period will be for a period commencing after the expected release date of the draft decision and ending not later than 15 business days before the expected release date of the final decision. The advice will specify the term of the averaging period which must be at least 10 and not more than 40 business days.⁴

On 12 April SP AusNet responded broadly that it accepted conditions one and two.⁵ However, it reserved the "right" to update the averaging period closer to the release date of the AER's final decision.⁶ On 16 April the AER sent another letter to inform SP AusNet that it considered its initial proposal was 'deficient in respect of the averaging period'.⁷ The AER informed SP AusNet that it had decided to 'stop-the-clock for any period taken by SP AusNet to provide information, relevant to the decision maker's decision on the proposal, in response to a notice or requirement issued by the AER under the law'.⁸ The AER reiterated that the conditions outlined in the 5 April letter would be acceptable.

In a letter dated 27 April SP AusNet proposed a methodology mostly consistent with that outlined by the AER in the 5 April letter.⁹ In a letter dated 2 May the AER responded that it accepted that SP AusNet would provide an averaging period prior to the release of the draft decision. This was consistent with the process set out in the AER's letters.¹⁰

The AER sent a letter to SP AusNet on 15 August informing it of the expected release date of the draft and final decisions and requesting the nomination of an averaging period consistent with the conditions outlined in the letter of 5 April.¹¹ SP AusNet responded in a letter dated 29 August that included an averaging period, provided on a confidential basis, and the following condition:

It should be noted, however, that SP AusNet reserves the right under the NGR and NGL to revise the proposed nominated averaging period in the event that it becomes apparent that the use of that period does not result in a rate of return that is commensurate with prevailing conditions in the market for funds.¹²

The AER accepts the nominated averaging period but does not accept the condition. Leaving open the right to revise the averaging period would introduce unbalanced incentives. Service providers have an incentive to seek a WACC that is as high as possible, because it will increase their profits. If a service provider can select an averaging period by observing market yields, this may introduce the possibility of upward bias because they could select a period

⁴ AER, *Letter to SP AusNet*, 5 April 2012.

⁵ SP AusNet, *Letter to the AER*, 12 April 2012.

⁶ SP AusNet accepted the constraint that any nominated averaging period finish no later than 15 business days from the expected release date of the final decision. SP AusNet, *Letter to the AER*, 12 April 2012.

⁷ AER, *Letter to SP AusNet*, 16 April 2012

⁸ AER *Letter to SP AusNet*, 16 April 2012.

⁹ SP AusNet, *Letter to the AER*, 27 April 2012.

¹⁰ AER, *Letter to the SP AusNet*, 2 May 2012

¹¹ AER, *Letter to SP AusNet*, 15 August 2012

¹² SP AusNet, *Letter to the AER*, 29 August 2012.

with the highest yield available.¹³ Service providers would be unlikely to depart from the process where such departure is not in its financial interests.

It is also important for the AER to hold SP AusNet to the method as proposed. Doing so promotes certainty, consistency and predictability in regulatory decision making.¹⁴

It is therefore preferable for there to be no conditions attached to a proposed averaging period. This allows the AER to make a draft decision and it also provides SP AusNet with certainty so that it make any necessary financial arrangements. These concerns are also discussed in section 4.3.2.

The AER does not approve the method proposed by SP AusNet for determining the risk free rate for the cost of equity. SP AusNet proposed the use of a long term average risk free rate.¹⁵ The AER does not consider that a long term average is likely to produce an appropriate estimate of the risk free rate, as discussed at appendix B.1.3.

SP AusNet made the following statement about the determination of a risk free rate:

It is noted, in particular, that the overall objective is to derive a reasonable estimate of the cost of equity for the forthcoming regulatory period, given the NGL and NGR requirements. The task is not to develop a forward-looking estimate of the risk free rate per se.¹⁶

SP AusNet proposed a long term average estimate of the risk free rate of 5.99 per cent.¹⁷ This is consistent with advice SP AusNet received from CEG to use of inflation indexed CGS from July 1993 to present.¹⁸ Using this approach CEG determine a real risk free rate of 3.40 per cent to which 2.50 per cent is added as an estimate of inflation expectations.¹⁹ This produces a nominal risk free rate estimate of 5.99 per cent (using the Fisher equation).²⁰

The AER considers a prevailing risk free rate will produce the most appropriate estimate and is preferable.²¹

For this draft decision, the AER has used an indicative 20 business day averaging period ending on 10 August. The indicative risk free rate has been applied for both the cost of equity and the cost of debt. For the final decision the risk free rate for both the cost of debt and the cost of equity will be updated to reflect the averaging period proposed by SP AusNet.

¹³ Lally, M., *Expert Report of Martin Thomas Lally*, February 2011, pp. 9-10. Lally's comments in this report were made about a specific approach proposed in the relevant determination but are consistent with the approach taken by the AER in this decision.

¹⁴ The absence of either an averaging period or a process of nomination from Envestra's, Multinet's and SP AusNet's proposals was significant enough for the AER to find their proposals deficient (see for example AER, *Letter to SP AusNet*, 16 April 2012).

¹⁵ SP AusNet, *Access arrangement information*, March 2012, p. 189.

¹⁶ SP AusNet, *Access arrangement information*, March 2012, p. 180; The AER does not agree with SP AusNet's interpretation of the task. As discussed in attachment 4, the AER considers that it is necessary to develop a forward looking estimate of the risk free rate.

¹⁷ SP AusNet, *Access arrangement information*, March 2012, p. 180.

¹⁸ CEG, *Internal consistency of risk free rate and MRP in the CAPM: Prepared for Envestra, SP AusNet, Multinet and APA*, March 2012, p. 45 (CEG, *Risk free rate and MRP in the CAPM*, March 2012).

¹⁹ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45.

²⁰ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 46.

²¹ Section 4.3.2 provides analysis supporting this conclusion.

B.1.2 CEG contentions

SP AusNet submitted a report it commissioned from CEG that makes a number of contentions about the risk free rate. This appendix addresses these additional matters. CEG's main contentions specific to the operation of the CGS market appear to be²²:

- There is unprecedented demand for CGS
- There is a shortage of supply of CGS in Australia
- The CGS market is out of line with other bond markets in Australia
- CGS yields have been volatile over the last few years

The AER considers each of these issues below. In some cases, the AER largely agrees with CEG's observations, whereas in other cases the AER disagrees. However at the outset it is important to highlight that it is unclear to the AER what conclusion CEG seeks to draw from these observations and contentions. CEG does not argue these contentions make CGS an inappropriate proxy for the risk free rate in Australia.

CEG contention: There is unprecedented demand for CGS

Under this contention there appear to be three main arguments:

- There is a flight to quality
- Demand from non-resident investors is high
- Basel III requirements are placing huge demands on the CGS market

Each of these arguments is discussed below.

There is a 'flight to quality'

The AER accepts that there may have been 'flight to quality' periods since the onset of the Global Financial Crisis (GFC) or at least, behaviour that fits that description.

A definition of a flight to quality may include:

Flight to quality episodes involve a combination of extreme risk- or uncertainty-aversion, weaknesses in the balance sheets of key financial intermediaries, and strategic or speculative behavior, that increases credit spreads on all but the safest and most liquid assets.²³

There have been periods since the onset of the GFC that could be described as being flight to quality periods. However, the AER does not consider there has been a sustained flight to quality since the onset of the GFC. Glenn Stevens recently made the following comment:

²² CEG, *Risk free rate and MRP in the CAPM*, March 2012, 20–32.

²³ Caballero, R. and Kurlat, P., *MIT Department of Economics Working Paper No. 08-21, Flight to Quality and Bailouts: Policy Remarks and a Literature Review*, 9 October 2008, p. 1.

We saw one such one bout of anxiety in the middle of this year when financial markets displayed increasing nervousness about the finances of the Spanish banking system and the Spanish sovereign.

The general increase in risk aversion saw yields on bonds issued by some European sovereigns spike higher; while those for Germany, the US and the UK declined to record lows. This flight to safety also saw market yields on Australian government debt decline to the lowest levels since Federation. Meanwhile many European economies saw a further contraction of economic activity and share markets decline sharply.²⁴

A flight to quality would not provide justification to depart from a prevailing estimate of the risk free rate. Demand for highly liquid assets is likely to increase in a flight to quality period.²⁵ This would, all else the same, push the yield on risk free assets down. These actions reflect changes in investor expectations and perceptions of the relative value of a risk free asset and would not undermine the risk free nature of that asset.²⁶

Shortly before RBA Governor Glenn Stevens made the comments above, the RBA provided the following advice:

I therefore remain of the view that CGS yields are the most appropriate measure of a risk-free rate in Australia.²⁷

This suggests that the RBA does not consider a flight to quality period makes CGS an inappropriate proxy for the risk free rate.

Demand from non-resident investors is high

The AER accepts that demand for CGS from non-resident investors has increased over the past few years and non-resident investors now hold a large portion of CGS. This conclusion is supported by the RBA in its advice to the AER:

Within the Australian market, one notable source of demand for risk-free assets has come from non-resident investors, whose holdings of CGS now comprise more than three-quarters of outstanding supply.²⁸

The number of AAA rated sovereigns globally has fallen over the past few years. The Treasury and AOFM note that 'Australia is currently one of only eight sovereigns to have a AAA rating with a stable outlook from all three major credit rating agencies.'²⁹

The AER does not consider an increase in demand for CGS from non-resident investors, and subsequent decline in CGS yields, suggests a short averaging period is inappropriate. In the WACC Review final decision (2009), the AER stated its position that the benchmark firm

²⁴ Glenn Stevens, *Opening Statement to the House of Representatives - 24 August 2012 - Hansard script*, p. 2.

²⁵ Caballero, R. and Kurlat, P., *MIT Department of Economics Working Paper No. 08-21: Flight to Quality and Bailouts: Policy Remarks and a Literature Review*, 9 October 2008, p. 2.

²⁶ Discussed further in section 4.3.2.

²⁷ Reserve Bank of Australia, *Letter to the ACCC: The Commonwealth Government Securities Market*, 16 July 2012, p. 1 (RBA, *Letter regarding the CGS market*, July 2012).

²⁸ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

²⁹ Australian Treasury and Australian Office of Financial Management, *The Commonwealth Government Securities Market*, July 2012, p. 2 (Treasury and AOFM, *Letter regarding the CGS Market*, July 2012).

operates in markets that inevitably include non-resident investors.³⁰ The Joint Industry Association also considered this to be appropriate in a submission on the topic:

(A)ny empirical domestic data on the risk-free rate, MRP, equity beta and gamma parameters have, or will certainly continue to be influenced by, both domestic and international investors.³¹

While the WACC Review is not binding in a gas context, the AER continues to hold this view. Increased non-resident ownership of CGS is reasonable in today's global markets. The increase in demand for CGS from non-resident investors is likely to reflect the low risk nature of CGS and the deep and liquid AAA-rated market.

Basel III requirements are placing huge demands on the CGS market

The AER accepts that Basel III requirements are imposing requirements on the way an Authorised Deposit-taking Institution (ADI) manages its risk. However, the AER does not accept that Basel III requirements are placing undue strain on the CGS market.

The effect of the Basel III requirements is to require these institutions to hold quantities of liquid assets on their balance sheet large enough to withstand a 30-day stress scenario.³² CEG argued that these requirements are placing strain on the CGS market.³³

CEG also referred to a speech by Guy Debelle, Assistant Governor of the Reserve Bank, in which he describes the creation of the Committed Liquidity Facility.³⁴ CEG submitted that the creation of this facility demonstrates that the CGS market is constrained. CEG stated:

Importantly, Assistant Governor Debelle was clearly expressing the view that the liquidity premium in the CGS market was, in November 2011, at historically very high levels (and seemingly well in excess of 15bp). The implementation of Basel III can be expected to ensure that this remains so in the foreseeable future.³⁵

The Committed Liquidity Facility was in fact created for the very purpose of ensuring the CGS market continues to function well:

Specifically, the creation of a committed liquidity facility (CLF) by the Reserve Bank is intended to *prevent* a situation in which the liquidity in the CGS market is impaired or in which the premia attached to CGS are increased beyond reasonable levels.³⁶

The AER accepts this advice that the CGS market will continue to function well in the presence of Basel III requirements. Furthermore, Assistant Governor Debelle's comments

³⁰ AER, *Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, p. 101 (AER, *Final Decision: WACC Review*, May 2009).

³¹ Joint Industry Associations (Energy Networks Association, The Australian Pipeline Industry Association Ltd and Grid Australia), *Network industry submission: AER Issues Paper, Review of the Weighted Average Cost of Capital (WACC) parameters for electricity transmission and distribution*, 24 September 2008, p. 28 (see also pp. 22, 24, 160, 174).

³² G. Debelle (Assistant Governor, Financial Markets, RBA), *Speech to the APRA Basel III Implementation Workshop 2011: The Committed Liquidity Facility*, 23 November 2011, p. 1 (Debelle, *Speech on the committed liquidity facility*, November 2011)

³³ CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 30-32.

³⁴ CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 30-32.

³⁵ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 32.

³⁶ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

suggest that, over the years prior to the onset of the GFC, the liquidity premium may have been unusually low.³⁷

Advice from the RBA and Treasury in 2007 suggested the use of nominal CGS as a proxy for the risk free rate was appropriate.³⁸ The AER does not consider it appropriate to attempt to determine an average, or 'normal', liquidity premium and only accept prevailing CGS when the observed premium is equal to the 'normal' premium.

The AER has confidence those authorities understand the requirements in their jurisdiction and have put in place adequate measures to address potential concerns. The AER concludes that the current demand for CGS does not undermine its usefulness as a proxy for the risk free rate.

CEG contention: There is a shortage of supply of CGS in Australia

The AER does not accept that there is a shortage of supply of CGS in Australia. Consequently, the AER does not accept that there is a 'scarcity premium' included in CGS yields.

As discussed in attachment 4.3.2 above, the Australian Government has a stated position recognising the need to ensure sufficient CGS are available to maintain liquidity in the market.³⁹

CEG made the following statement:

This shortage of CGS is well understood to have resulted in a scarcity premium for CGS in recent years - and hence a depressed yield.⁴⁰

CEG provided no empirical evidence of a shortage of supply in the CGS market. CEG also did not discuss how a shortage of supply might be defined or investigated. CEG refer to a quote from Assistant Governor Debelle that 'government paper has been in short supply for many years.' CEG appear to suggest that Assistant Governor Debelle is suggesting that government paper is currently in short supply and that this is commonly understood. For the following reasons, the AER does not consider this to be an accurate suggestion.

Assistant Governor Debelle's comments were made in the context of estimating a historical average liquidity premium that necessarily included the period before the onset of the GFC. CGS were in relatively lower supply at that time.⁴¹ Contrary to CEG's assertion, it does not follow that the supply of CGS is currently low or that prevailing CGS yields are an inappropriate proxy for the risk free rate.

Prior to the GFC the supply of CGS was lower than it is now. In 2007 CGS on issue was approximately \$50 billion. As a result of changes to fiscal policy since that time, CGS on issue

³⁷ Debelle, Speech on the committed liquidity facility, November 2011, p. 2.

³⁸ RBA, *Letter to the AER*, August 2007, p. 1; Australian Treasury, *The Treasury Bond yield as a proxy for the CAPM risk-free rate*, August 2007, p. 1.

³⁹ Initially stated in 02-03 Budget www.budget.gov.au/2003-04/bp1/html/bst7.htm; reaffirmed in 11-12 budget. www.budget.gov.au/2011-12/content/bp1/html/bp1_bst7-03.htm

⁴⁰ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 29.

⁴¹ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

is now around \$235 billion.⁴² The AER does not consider that an increase in supply of this magnitude is likely to suggest a shortage of supply. Further, the advice from the Australian Treasury and AOFM provides the AER with confidence that there is currently no shortage of supply in the CGS market.

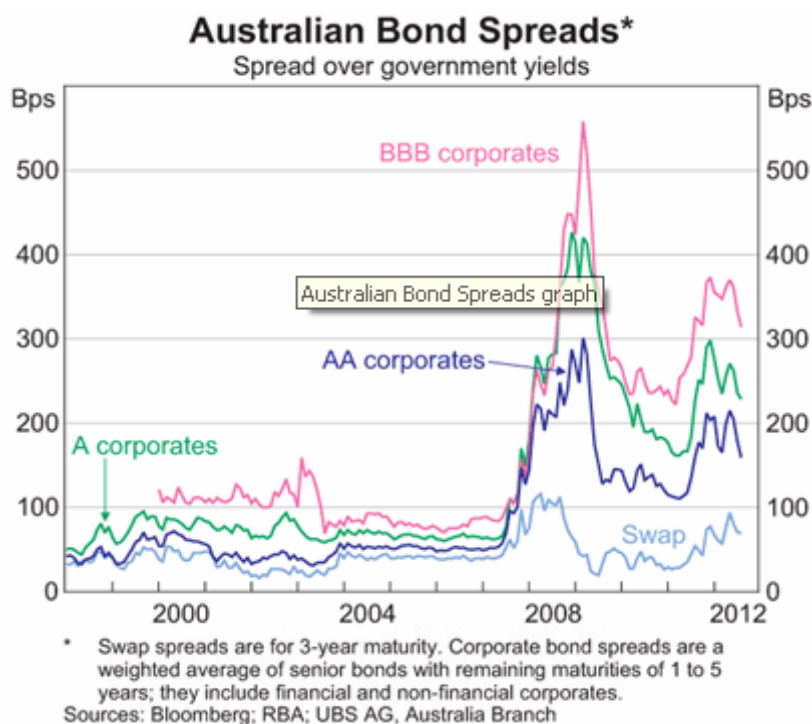
As there is no shortage of supply in the CGS market, there is unlikely to be a scarcity premium unreasonably pushing the yield on CGS down.

CEG contention: The CGS market is out of line with other bond markets in Australia

The AER accepts that the spread between the yield on CGS and other debt securities has increased since the onset of the GFC. This likely reflects relatively greater demand for CGS from non-resident investors and changes in market participants' assessment of the relative riskiness of the assets. The AER does not accept that this suggests that prevailing CGS are not the most appropriate proxy for the risk free rate.

The figure below shows that the spread between the yield on CGS and other debt securities rose significantly after the onset of the GFC and has not returned to pre-GFC levels.

Figure B.1 Australian Bond Spreads

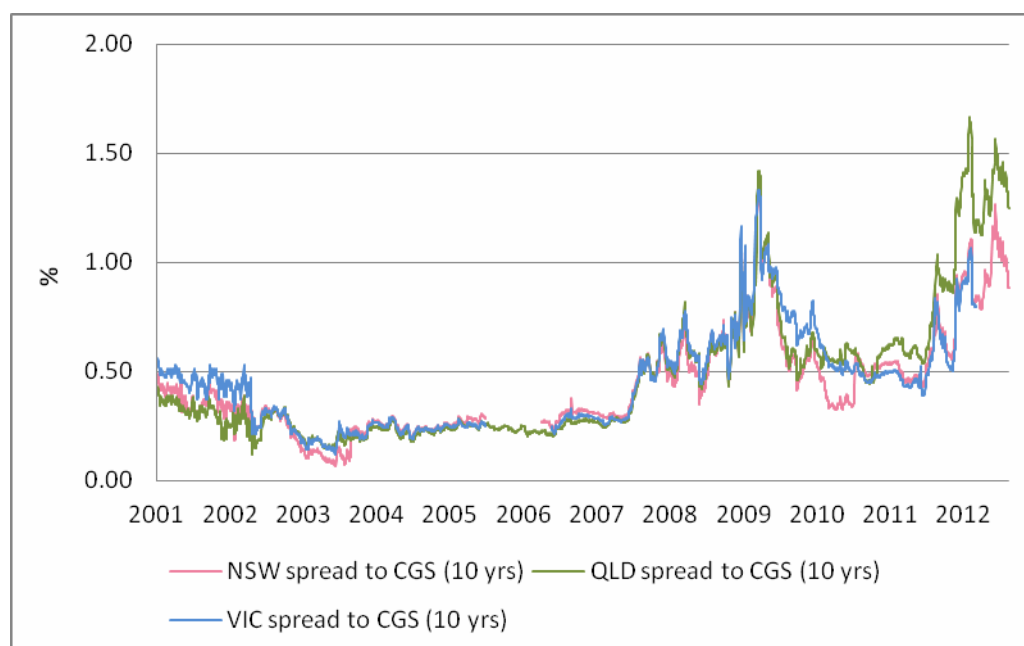


Source: RBA

The figure below shows that the widening of spreads can also be observed in the semi-government bond market.

⁴² Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

Figure B.2 Semi-government spreads to CGS



Source: Bloomberg, AER

The RBA advice notes that '(t)his widening [of spreads] indeed confirms the market's assessment of the risk-free nature of CGS and reflects a general increase in risk premia on other assets.'⁴³

The Treasury and AOFM advice makes the following statement:

Other issuers of Australian dollar-denominated debt may not have benefited from this increased demand to the same extent as the Commonwealth owing to investment mandate limitations and/or perceived or actual lower levels of liquidity in other types of debt.⁴⁴

Possibly adding to the spread for semi-government bonds, the September Quarter RBA Bulletin states:

The increase in spreads during periods of heightened risk aversion may in part reflect the fact that some investors, particularly offshore investors, are not always familiar with the extent of vertical fiscal integration in Australia, whereby state governments receive a large share of their revenue via redistributions of Australian Government tax receipts.⁴⁵

Increased demand from non-resident investors has also likely had an influence on the increased spreads. Demand from non-resident investors has been proportionately larger in the CGS market over the past few years. The Treasury and AOFM advice notes that non-resident ownership of CGS increased from around 50 per cent in mid-2009 to around 76 per cent in March 2012.⁴⁶ The advice also notes that non-resident ownership of semi-government

⁴³ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

⁴⁴ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

⁴⁵ Lancaster and Dowling, *The Australian Semi-government Bond Market*, RBA bulletin, September Quarter 2011, p. 54.

⁴⁶ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

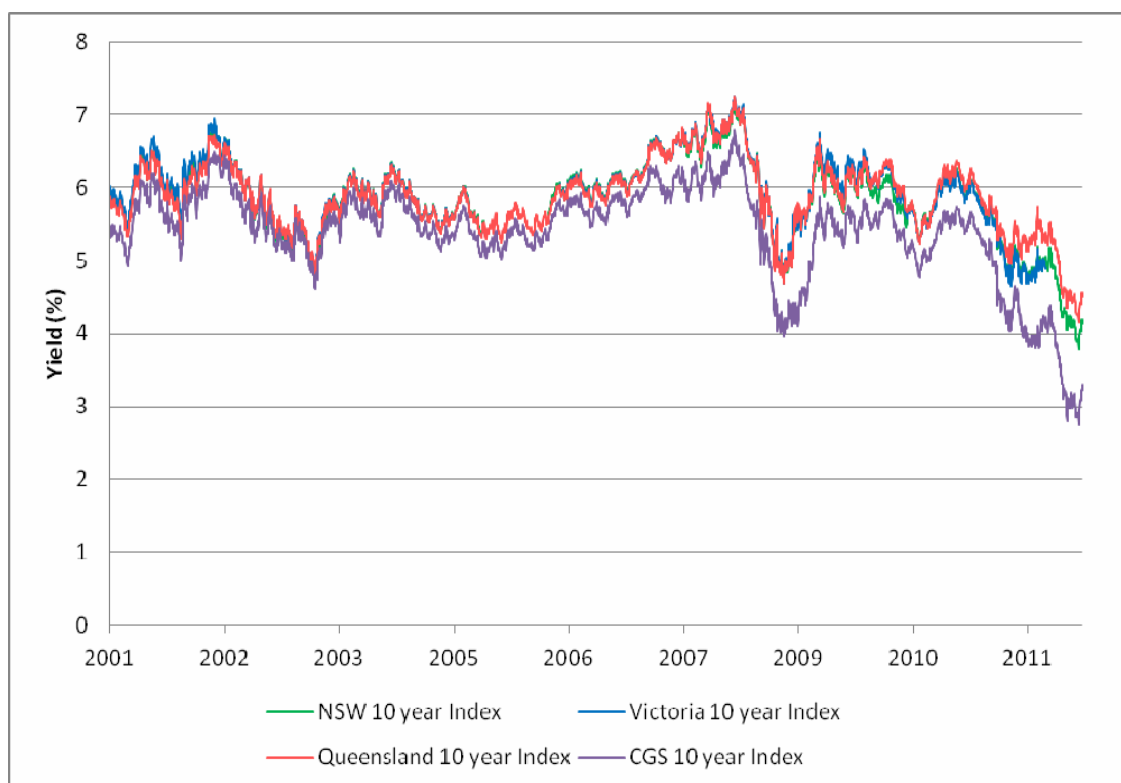
securities has increased in the same period, albeit by a smaller amount.⁴⁷ As discussed in section 4.3.2 above, the AER does not consider that increased demand from non-resident investors makes CGS an inappropriate proxy for the risk free rate.

Relative risk assessments are considered in the context of the MRP; found in attachment 4.3.3.

The AER notes that CEG assert that the yield on semi-government securities have not fallen to the same degree as CGS.⁴⁸ The AER accepts this is the case. However, semi-government bonds have fallen considerably since the onset of the GFC.

Over the period from mid-2009 to March 2012 the yield on semi government debt has fallen by approximately 100 basis points on average. Before the onset of the GFC the yield on semi government bonds was higher than at present. This suggests that while semi-government bond yields have not moved in lock-step with CGS yields, the forces acting upon them have been very similar. The Figure below demonstrates this clearly.

Figure B.3 CGS and semi-government indices over time



Source: Bloomberg, AER

CEG contention: CGS yields have been volatile over the last few years

The AER acknowledges that CGS yields change over time; this does not make CGS yields an inappropriate proxy for the risk free rate. Changes in CGS yields reflect changes in investor

⁴⁷ Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

⁴⁸ CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 21-25.

expectations and CGS yields therefore remain the best estimate of the forward looking risk free rate at any point in time.⁴⁹

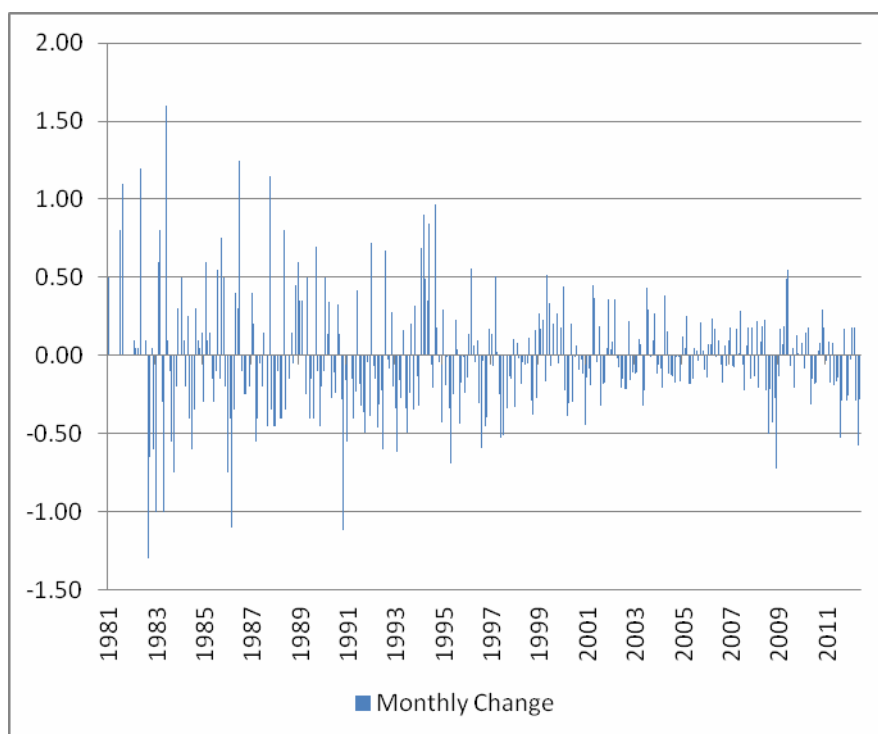
CEG comment that CGS yields have been very volatile over the past few years:

The nominal and CPI indexed yield on 10 year CGS have been very volatile over the last three years. Twice in this period, first in early 2009 and then in late 2011, yields have fallen to levels not previously seen in the last fifty years.⁵⁰

The CEG report does not explore in any detail what the volatility of CGS yields has actually been over the last three years. CEG point to a graph of CGS yields and suggest this demonstrates volatility.⁵¹

The AER has examined observed changes in average CGS yields since 1981. The observed change in the monthly average yield is displayed in Figure B.4 below. This analysis is not strictly volatility analysis. Nevertheless, it is useful as it provides an indication of how much CGS yields have historically changed from period to period.

Figure B.4 Observed change of monthly average nominal CGS yields



Source: RBA, AER analysis

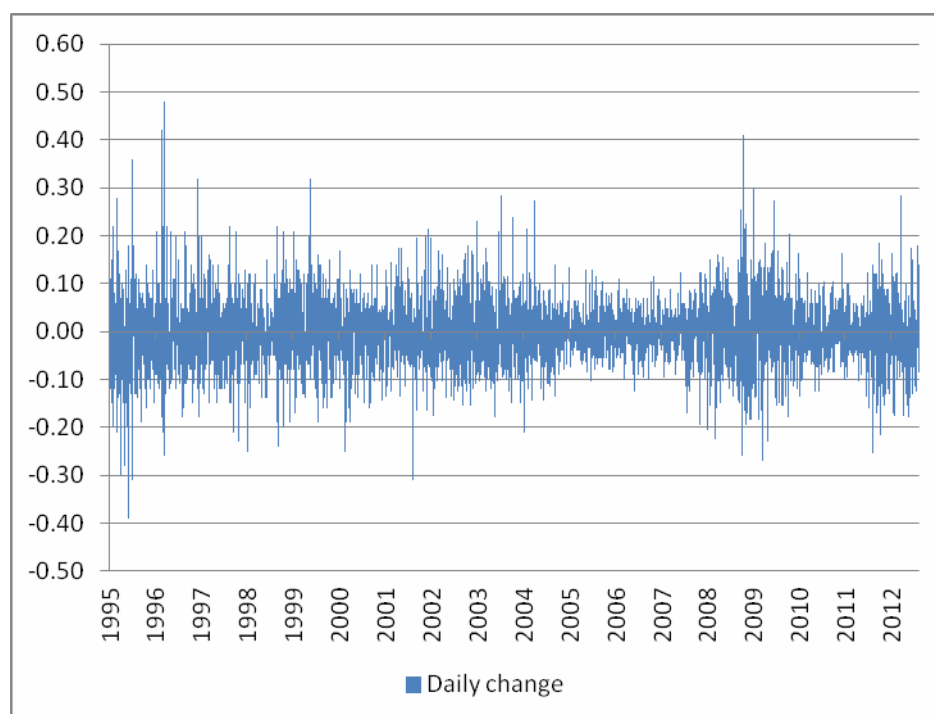
The graph suggests that CGS yields have not been relatively more volatile when compared to observed changes. This observation is likewise reflected in the observed change of daily average yields since 1995 as shown in Figure B.5 below.

⁴⁹ Discussed further in section 4.3.2.

⁵⁰ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. i.

⁵¹ CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 4.

Figure B.5 Observed change of daily average nominal CGS yields



Source: RBA, AER analysis

CEG's concerns appear to rest primarily with the low level of prevailing CGS yields, rather than volatility. This is clear from CEG's statement above. The AER has considered the effect of the low level of prevailing CGS yields in sections 4.3.4 and 4.3.9 when considering the relationship between the MRP and the risk free rate, and the overall rate of return.

B.1.3 Long term average as an alternative option

The AER has given consideration to the alternative of using a long term average historical estimate of the risk free rate and concludes that this would not be an acceptable approach, given the requirements of the NGR. This is because, as discussed below, there is limited evidence that the cost of equity is stable through time, a long term average is not consistent with the present value principle and would expose regulatory decisions to bias.

The AER has consistently employed an approach where it estimates a forward looking MRP and risk free rate based on the best evidence available. CEG proposed departure from this consistent approach to the use of a long term historical average for estimating the risk free rate.⁵² CEG proposed the use of inflation indexed bonds averaged over the period from July 1993.⁵³ This approach was proposed by Envestra Victoria and Albury, SP AusNet and Multinet in their respective initial access arrangement proposals, but not by APA GasNet.⁵⁴

⁵² CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 41-47.

⁵³ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45-46.

⁵⁴ Envestra, *Access arrangement information*, 30 March 2012, p. 156; SP AusNet, *Access arrangement information*, 30 March 2012, p. 189 ; Multinet, *Access arrangement information*, 30 March 2012, p. 154; APA GasNet, *Access arrangement submission*, 31 March 2012, p. 132-133.

CEG stated:

An historical average estimate of the cost of equity can be a reliable proxy for the prevailing cost of equity if the cost of equity is stable through time.⁵⁵

The AER gives consideration to the relationship between the risk free rate and MRP in section 4.3.4 above and considers that there is little evidence that the cost of equity is stable through time.

The reasoning for a departure from the use of prevailing estimates is not clear. Firstly, Envestra Victoria and Albury, SP AusNet, Multinet and CEG appear to argue that there are problems in the CGS market. These concerns are addressed in section B.1.2 above. Secondly, they appear to suggest that using prevailing estimates of CGS yields is inconsistent with using historical estimates of the MRP. This is a mischaracterisation of the AER's approach as discussed in section 4.3.4.

The AER has a number of concerns with using a long term average approach. Importantly, a long term average is not consistent with the present value principle. Lally found that 'the Present Value principle requires use of the risk free rate at the beginning of the regulatory period.'⁵⁶

As discussed in section 4.3.2, a strict interpretation of the present value principle requires the use of the risk free rate on the first day of the period. However, a pragmatic allowance is made from using this strict interpretation of the present value principle. The allowance is to use a short averaging period as close as practically possible to the beginning of the regulatory period. This reduces the exposure of regulated businesses to unreasonable variation that can be reflected in the yield for a single day.

As Lally points out:

Rates averaged over a much longer historical period would be inconsistent with the present value principle, i.e., they would violate it without offering any incremental pragmatic justification.⁵⁷

Indeed, the AER considers that a long term average would likely introduce problems that are not involved with using a prevailing rate.

A long term average is unlikely to produce an unbiased estimate of the risk free rate. On the face of it, using a long term average may seem a reasonable approach. A difficulty is that the time that is selected for the beginning of the period has a significant influence on the output. The selection of an appropriate averaging period is subjective and therefore subject to manipulation for desired results.

The AER has calculated historical average yields on nominal and indexed CGS using monthly average yields provided by the RBA.⁵⁸ These yields show variation as the time period

⁵⁵ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. i.

⁵⁶ M. Lally, *The risk free rate and the present value principle*, 22 August 2012, p. 3 (Lally, *Risk free rate and present value*, August 2012)

⁵⁷ Lally, *Risk free rate and present value*, August 2012, p. 7.

⁵⁸ RBA, *Capital market Yields - Government Bonds - Monthly - F2*, available at <<http://www.rba.gov.au/statistics/tables/index.html>>, accessed 15 August 2012.

changes, as shown in Table B.1 below. These averages are likely to differ from CEG and SP AusNet's as the AER has used monthly average yields as opposed to daily average yields. The difference is not likely to be significant for the purposes of this discussion.

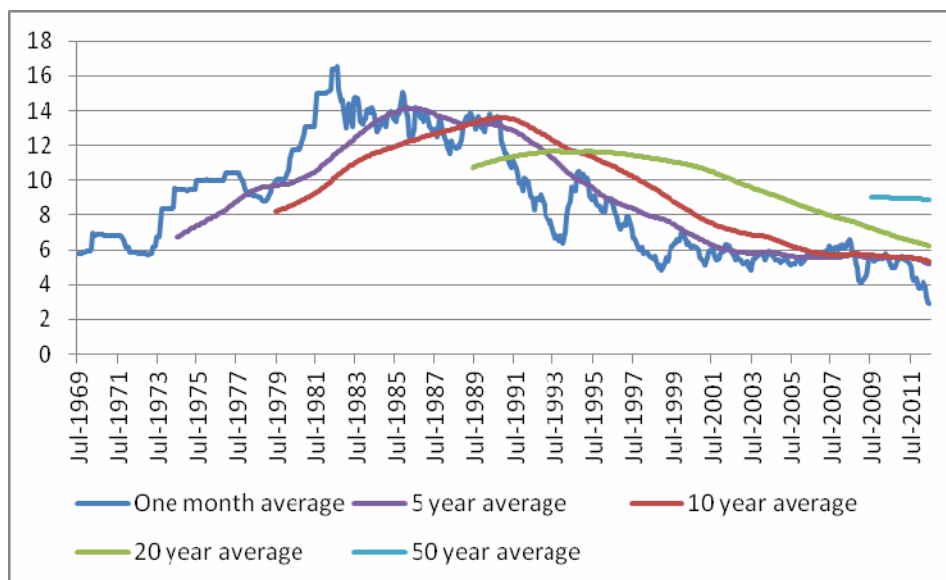
Table B.1 Historical average yields on nominal and indexed CGS

	Nominal 10 year CGS	Indexed CGS
All data		
1969	8.72	
1986		3.76
20 year	6.25	3.35
10 year	5.34	2.63
5 year	5.16	2.38
1 year	3.92	1.60

Source: RBA, AER analysis

The declining average yields over the period reflect the lagged impact of the decline in CGS yields over the past 30 years. The figure below demonstrates this lagged impact. When interest rates decline, or increase, over time, a longer historical averaging period produces a greater difference between the observed yield and the historical average. The 20 year average is higher than the 10 year average, for example.

Figure B.6 Average nominal CGS yields through time



Source: RBA, AER analysis

SP AusNet proposed a long term average estimate of the risk free rate of 5.99 per cent.⁵⁹ This is consistent with advice SP AusNet received from CEG⁶⁰ CEG proposed the use of

⁵⁹ SP AusNet, *Access arrangement information*, March 2012, p. 180.

inflation indexed CGS from July 1993 plus an estimate of the future inflation rate of 2.50 per cent.⁶¹ CEG suggested that July 1993 is a reasonable time to begin the estimation period because this is approximately when the RBA formally adopted an inflation targeting regime.⁶²

The AER has a number of reservations with this reasoning. Firstly, the selection of the starting point for the averaging period is subjective. In this case, for example, there is a question about whether the adoption of inflation targeting was seen as credible by market participants at that point in time. The credibility of the inflation targeting regime is important because if expectations did not immediately match the target band, then the yield on CGS may have been higher than if expectations did match the target band.⁶³ This suggests that a historical average over this period might not be a reliable proxy for the real risk free rate in combination with an inflation estimate of 2.5 per cent.

Secondly, the quality of the historical data is important and at times uncertain. As CEG note, indexed CGS went through a period of very limited supply in the years prior to the GFC.⁶⁴ Indeed, the RBA and Australian Treasury confirmed this in advice to the AER.⁶⁵ This suggests that a historical average of indexed CGS is unlikely to provide an accurate reflection of the real risk free rate over the period.

There are likely to be many alternative long term historical periods that could be used to determine a historical average with positives and negatives for all such historical periods. However, each of these alternatives is an inferior alternative compared to prevailing yields on long dated CGS.⁶⁶

The Tribunal recently acknowledged the difficulties in determining an appropriate long term averaging period:

Clearly, the 'right' period for the estimation of capital market parameters that are to be included in calculations of the WACC under the CAPM is one that is likely never to be agreed by parties in a rate of return calculation.⁶⁷

These comments were made in the context of the Tribunal's decision on MRP where long term averages are commonly used. Nevertheless, they capture the AER's concerns about using a long term average for the risk free rate, particularly as a short term average captures market participant's current expectations for the future.

The AER concludes that a long term averaging period is not appropriate and does not result in the best possible estimate in the circumstances. The inherent subjectivity in selecting a period for a long term average increases the likelihood of bias in the estimate of the risk free rate.

⁶⁰ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45.

⁶¹ CEG, *Risk free rate and MRP in the CAPM*, March 2012 p. 45.

⁶² CEG, *Risk free rate and MRP in the CAPM*, March 2012 p. 16, 45

⁶³ 'A change in expected inflation will cause the same change in the nominal interest rate.' R. Brealey, S. Myers, G. Partington, and D. Robinson, *Principles of Corporate Finance*, McGraw-Hill Australia: First Australian Edition, 2007, p. 691.

⁶⁴ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45

⁶⁵ RBA, *Letter regarding the CGS market*, July 2012, p. 1.

⁶⁶ Discussed further in section 4.3.2.

⁶⁷ Australian Competition Tribunal, *Application by DBNGP(WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 149.

B.1.4 The term of the risk free rate

The term of the risk free rate

SP AusNet proposed the use of a 10 year term and the AER accepts a 10 year term is appropriate. The AER notes, however, that the selection of an appropriate term is not straightforward.

When determining the term of the risk free rate there are a number of considerations involved. It is important to consider consistency with the present value principle. The AER has also previously considered actual practices by regulated businesses.⁶⁸ Finally, a 10 year term ensures consistency in this decision between the risk free rate used for the cost of equity and that used for the cost of debt, including in the calculation of the MRP and DRP. On balance, the use of a 10 year term is appropriate for this decision.

The present value principle is a fundamental element when determining the term of the risk free rate. The AER notes that there are divergent schools of thought on the appropriate term to ensure consistency with the present value principle.

Associate Professor Lally suggests that the AER should use a term that is consistent with the regulatory period when estimating a risk free rate at the start of the period.⁶⁹ This suggests the AER should use a 5 year term. Professor Davis has also expressed support for this approach.⁷⁰

On the other hand, the AER notes that there are arguments in favour of using a longer term to more closely match the life of the assets.⁷¹ Broadly, the argument suggests that regulated assets have long lives and corresponding cash flows, therefore the duration of the risk free rate should be as long as is practically possible.

In the WACC Review in 2009, the AER also considered arguments put forward by businesses that common practice was to use long dated financing to manage refinancing risk.⁷² This formed an important consideration for the estimation of the DRP using a 10 year term.⁷³ In contrast, the ERA has recently analysed the average maturity of debt issued by regulated businesses and found this to be approximately 5 years.⁷⁴

Consistency between the cost of equity and the cost of debt may also be important. This would mean that the MRP and DRP would need to be estimated consistently. In the recent DBNGP matter, the Tribunal supported the ERA's consideration that this consistency is

⁶⁸ AER, *Final Decision: WACC Review*, May 2009, p. 148–149.

⁶⁹ Lally, *Risk free rate and present value*, August 2012, p. 16.

⁷⁰ K. Davis, *Determining debt costs in access pricing, a report to IPART*, February 2011, p. 1.

⁷¹ A. Damodaran, *What is the riskfree rate? A search for the Basic Building Block*, December 2008, p. 6-7.

⁷² AER, *Final Decision: WACC Review*, May 2009, pp. 156-166.

⁷³ AER, *Final Decision: WACC Review*, May 2009, p. 168.

⁷⁴ ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, Submitted by DBNGP (WA) Transmission Pty Ltd*, 31 October 2011, pp. 126–130 (ERA, *Final decision: DBNGP access arrangement*, October 2011).

important.⁷⁵ The Tribunal considered consistency with the calculation of the DRP to be most important.⁷⁶

In summary, while there are arguments in favour of a shorter term, it is appropriate at this time to continue to use a 10 year term. The AER therefore accepts SP AusNet's proposal. The AER also notes that a 10 year term is likely to provide a conservative estimate of the risk free rate.

B.1.5 The EnergyAustralia matter

CEG's submission referred to the Tribunal's decision in *Application by EnergyAustralia and Others [2009] ACompT 8* (the EnergyAustralia matter) to support the position that the averaging period does not need to be as close as practically possible to the commencement of the regulatory control period.⁷⁷ The AER has considered carefully whether the Tribunal's decision in the EnergyAustralia matter demonstrates that the approach applied in this decision inappropriate.

There is a history of the AER applying Tribunal decisions. There are two such examples in this determination. The AER has applied the Tribunal's decision on gamma.⁷⁸ Also, the AER has followed the Tribunal's decision on the use of the Bloomberg fair value curve to estimate the DRP.⁷⁹

In the time since the EnergyAustralia matter, the Federal Court has handed down its judgement in *ActewAGL Distribution v The Australian Energy Regulator [2011] FCA 639* (the ActewAGL matter). Also, the Tribunal handed down its decision in *Application by Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1* (the Telstra matter).⁸⁰ Further, as the EnergyAustralia matter considered provisions in the transitional chapter 6 of the NER, there are differences in the legislation involved. Therefore, despite its history of applying the Tribunal's decisions, the circumstances surrounding the risk free rate for this determination and the EnergyAustralia matter are somewhat different. Specifically:

- The SP AusNet decision is made under the NGL and NGR. In contrast, the Energy Australia decision was made under the NEL and NER. Further, the Energy Australia

⁷⁵ Australian Competition Tribunal, *Application by DBNGP(WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 131.

⁷⁶ Australian Competition Tribunal, *Application by DBNGP(WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 132.

⁷⁷ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. v. Source document is Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009] ACompT 8*, 12 November 2009.

⁷⁸ Australian Competition Tribunal, *Application by Energex Limited (Gamma) (No 5) [2011] ACompT 9*, 12 May 2011.

⁷⁹ Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012. Also, in the Victorian electricity distribution determination, the AER accepted Jemena Electricity Network's proposed averaging period, despite it being inconsistent with the SRI methodology. This was on the basis of the Tribunal's decision in the EnergyAustralia matter. The AER stated at the time that it was still examining the full implications of the Tribunal's decision and its relationship to the requirements of the SRI as well as to the broader NER framework. AER, *Final decision: Victorian electricity distribution network service providers: Distribution determination 2011–15*, October 2010, pp. 477–478 (AER, *Final decision: Victorian distribution determination*, October 2010).

⁸⁰ Australian Competition Tribunal, *Application by Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010.

decision was made under transitional provisions of the NER. There are differences in the legislation involved in the EnergyAustralia matter and the legislation the AER applies for the SP AusNet decision.

- The legislation in the EnergyAustralia matter included provisions deeming the MRP to be 6 per cent.⁸¹ It is not clear to the AER the extent to which these provisions influenced the Tribunal's decision.⁸² To the extent this occurred, the AER considers this interpretation was not appropriate. In the ActewAGL matter, the Federal Court upheld the AER's reasons for rejecting ActewAGL's submission that the risk free rate should be adjusted to take into account variations in the MRP. A key reason of the AER was that adjusting the risk free rate to make up for a higher MRP was an attempt by ActewAGL to circumvent the legislation and would undermine the intended certainty provided under the regulatory regime through the deeming provisions.⁸³
- At any rate, the legislation here does not include deeming provisions and instead enables the rate of return, including the MRP where the CAPM is adopted as the well accepted financial model, to reflect prevailing conditions in the market for funds. As discussed in attachment 4, the AER has consistently held a position that each WACC parameter should be estimated based on considerations relevant to that parameter, rather than to deal with issues relating to another parameter. In the Telstra matter, the Tribunal made its position clear that CGS yields during the global financial crisis remained representative of the risk free rate, and the mere fact that the yields were 'low' did not change this conclusion.
- In the EnergyAustralia matter, the Tribunal considered that the NER's drafting results in cost of capital needing to represent the return required by investors at the start of each regulatory year. As mentioned above, the legislation here has no such drafting. Also, the Federal Court recognised that the capital asset pricing model (CAPM) requires the use of the most current information for deriving the cost of capital. According to the Federal Court, in theory, this involves the use of the risk free rate at the beginning of the regulatory control period. For the reasons set out in section 4.3.2, the use of the risk free rate near the beginning of the regulatory control period is also consistent with the building block model required under the NGR. Advice from Associate Professor Lally supports both that the CAPM requires the most current risk free rate and that the building block model requires the use of a risk free rate commensurate with prevailing market conditions at the start of the regulatory control period.
- In the EnergyAustralia matter, the Tribunal's reasons for finding that the AER acted unreasonably in withholding consent to EnergyAustralia's proposed averaging period included that the AER did not examine the evidence regarding forward interest rates.⁸⁴ However, the Federal Court noted evidence that no Australian regulator has done so. It

⁸¹ NER, Transitional chapter 6 clause 6.5.2(b)

⁸² Some support for the conclusion that they did can be found at paragraph 73(d)(1) where the Tribunal stated that a principle assisting it in the determination of the issue was '...whether the period proposed is likely to result in an unbiased risk free rate, given that the equity beta and the market risk premium are deemed to be 1.0 [sic] and 6.0 per cent respectively'. Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009)* [2009] ACompT 8, 12 November 2009.

⁸³ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 148.

⁸⁴ Australian Competition tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009)* [2009] ACompT 8, 12 November 2009, paragraph 94.

also very much doubted that the NER required the AER to deploy forward rates to make the averaging period decision.⁸⁵

- Further the EnergyAustralia matter involved a legislative regime where a service provider's proposal has presumptive approval, and the AER cannot unreasonably withhold its approval. In contrast, the rate of return provision in the NGR is a full discretion provision. This means the AER retains the discretion to not approve a service provider's proposal, even where that proposal complies with and is consistent with the relevant legislative requirements and criteria. If the AER considers there is a preferable alternative that also complies with and is consistent with the relevant legislative provisions it may implement it.⁸⁶

As the Federal Court noted, the Tribunal and the Federal Court apply different tests. However, given the differences noted above, the AER does not consider it appropriate to merely apply the Tribunal's decision in the EnergyAustralia matter as if it were a precedent. Accordingly, in these circumstances, the AER does not consider that it should accept on face value that the Tribunal's decision demonstrates that the approach applied in this decision is inappropriate. Instead, throughout attachment 4 and this appendix the AER has assessed all of the evidence available on its merits.

For the reasons set out in this decision the AER does not consider the Tribunal's decision in the EnergyAustralia demonstrates that the approach applied in this decision is inappropriate.

In the remainder of this section the AER considers:

- The Tribunal's and the Federal Court's interpretations of the statutory scheme under clause 6.5.2 of the NER.
- The usefulness of forward interest rates in assessing a proposed risk free rate averaging period.
- In section 4.3.2 the AER considers the economic insights that can be gained from the 'present value principle' and how this principle is consistent with both the use of the building block model and the use of the CAPM. In section B.1.6 the AER considers the Tribunal's considerations in the Telstra matter.

The Tribunal's and the Federal Court's interpretation of the statutory scheme

In withholding its approval to EnergyAustralia's proposed averaging period, the AER stated that the AER's regulatory practice was supported by accepted expert views in the economic and finance literature.⁸⁷ In response to the reports referenced by the AER, the Tribunal set out its interpretation of the statutory scheme:

The rate of return, or WACC, is applied to the value of the regulatory asset base of the NSP as at the beginning of a regulatory year to produce the return on capital (in dollar terms) for that regulatory year (cl 6.5.2(a)). (The regulatory asset base is updated each

⁸⁵ Federal Court of Australia, *ActewAGL Distribution v The Australian energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 145.

⁸⁶ NGR, r. 40(3)

⁸⁷ The AER referenced the following three reports in support of this statement: M. Lally, *Determining the risk free rate for regulated companies*, August 2002; K. Davis, *Report on the risk free interest rate and equity and debt beta determination in the WACC*, 28 August 2003; M. Lally, *The cost of capital for regulated utilities—Report prepared for the QCA*, 26 February 2004 (Lally, *Cost of capital for regulated utilities*, February 2004).

year (cl 6.5.1(e)(2).) Thus the WACC is applied in each of the five regulatory years within the regulatory control period. It follows that the WACC to be applied each year should in principle be the rate of return required by investors at the beginning of that year. This rate of return would naturally be expected to differ from year to year.

That is not, however, the scheme set out in cl 6.5.2. Rather it provides for a single value of the WACC to be calculated and applied to each year's starting regulatory asset base.

...

The risk free rate, whether agreed or specified, is, it seems to be agreed by all parties, that which prevails at some time (the averaging period) prior to the start of the regulatory control period; similarly with the benchmark corporate bond rate. Those inputs might generate a rate of return value reasonably close to that actually required by investors at the start of the regulatory control period, and applied to the first year's starting regulatory base. But with changes in market conditions over the regulatory control period, it is hard to see why the rate of return value would represent the return required by investors at, say, the start of the final year of the regulatory control period.

In the meantime, the risk free rate and corporate bonds rates would almost certainly have varied from their initial values. Consequently, there appears to be no virtue in setting those rates at values that prevailed close to the start of the regulatory control period, or to the publication of a final determination.

It may be accepted that, [the AER's practice] ...and the practice of regulators more generally has been to apply a nominal risk free rate averaging period closer to the start of the regulatory period. This practice has been supported by economic experts. The Tribunal observes, however, that this is not a universal practice. In market conditions that are not wildly out of the norm, this may be expected to provide a figure that is fairly close to being an unbiased estimate of the risk free rate consistent with market conditions at the time of the final determination; and may consequently be expected to provide a reasonable estimate of the rate of return on capital that would be required by investors at the time of the final determination.

But as explained above, there is no proper basis for seeking such an estimate. The views of economic experts appear to be based on a model where the regulatory control period is considered to be a single period (of five years), not five consecutive one-year periods. In the scheme set out in the Transitional Rules, the nexus is broken between the period to which the rate of return applies and the period for which that rate of return is estimated. Once that is realised, the basis for withholding agreement to an averaging period proposed by EA falls away. [Emphasis added]⁸⁸

As is clear from this quote, the Tribunal considered that the statutory scheme rendered expert economic advice in support of the AER's position irrelevant. The Tribunal's view appears to be that the rate of return set under clause 6.5.2 of the NER needs to be representative of the (10 year) return required by investors at the start of each year of the regulatory control period.⁸⁹ Once again, the NGR do not contain any drafting similar to that the Tribunal referred to. Therefore, it appears that the EnergyAustralia decision has limited influence in the present circumstances.

In the ActewAGL matter, the Federal Court was careful to point out that the tests it applied on judicial review are different from the tests applied in the Tribunal's merits review. The Federal Court expressly stated that the Tribunal's view on the merits of the AER's decision were

⁸⁸ Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009)* [2009] ACompT 8, 12 November 2009

⁸⁹ The term of the risk free rate was deemed to be 10 years in the transitional chapter 6 clause 6.5.2 that applied in the EnergyAustralia matter.

irrelevant in the judicial review.⁹⁰ However, in commenting on the statutory scheme, the Federal Court also stated:

The relevant equation is that which determines the return on equity (ke), which paragraph (b) provides must be determined using the Capital Asset Pricing Model ("CAPM") and certain defined parameters. ...

The Capital Asset Pricing Model requires the use of the most current information for deriving the rate of return. This in theory involves the use of the risk-free rate on the day that required returns are to be estimated (in this case, the beginning of the regulatory period). Nevertheless, there are recognised problems with the use of an on-the-day rate which an averaging period is intended to address. In particular, deploying an averaging period will minimise day-to-day volatility in the market.⁹¹ [Emphasis added]

Clearly, this is not an express statement that the Tribunal's interpretation is incorrect. However, it appears that the Tribunal considered clause 6.5.2(a) to require the rate of return to be that required by investors at the beginning of each regulatory year. On the other hand, the Federal Court recognised that the CAPM—proposed by SP AusNet and approved by the AER—requires the rate of return to be that required by investors at the beginning of the regulatory period. It seems difficult to reconcile the two statements. Based on this reason and others,⁹² the AER considers that the economic evidence it presented in the EnergyAustralia matter remains relevant. Further, the economic evidence presented in Associate Professor Lally's report to the Federal Court in the ActewAGL matter and recent advice to the AER is also relevant. Those reports are considered in the section 4.3.2.

On this basis, the AER considers that, conceptually, the rate of return set under the CAPM should represent the return required by investors at the beginning of the regulatory control period (over the relevant forward looking period). The AER does not consider that rule 87 of the NGR requires a rate of return (over the specified term) representative of the return required by investors at the start of each year of the regulatory control period.

The use of forward interest rates

In the EnergyAustralia matter, the Tribunal said the AER should use forward interest rates to assess a service provider's proposed averaging period. The Tribunal stated:

Rather than assume that the rate at a closer date would give a better estimate, the AER should have examined the evidence regarding expected future rates. Such evidence of forward interest rates, ie, rates that will apply at some future time for a prospective period, is available from market data. Comparisons could be made between the rates expected to prevail during the averaging period proposed by the NSP and rates expected at later periods. But it follows from the Tribunal's reasoning that it would be insufficient and inappropriate to only compare with rates expected to prevail close to the time of the final determination.⁹³

⁹⁰ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 113.

⁹¹ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraphs 22 and 28.

⁹² For example, if the Tribunal's interpretation is correct, it seems that the AER misinterpreted clause 6.5.2(a). If so, it seems likely that the Federal Court would have made a similar finding. However, it did not. The AER acknowledges that the Federal Court did not address this issue in detail.

⁹³ Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009)* [2009] ACompT 8, 12 November 2009, paragraph 94.

The AER has considered the usefulness of forward interest rates to assess the averaging period's predictability of the risk free rate at a future point in time. In their reports to the Federal Court, Lally and Houston advised that they were not aware of any Australian regulatory decision in which forward rates had been used to guide the selection of an averaging period for the risk free rate.⁹⁴

Lally further advised that there were 'two major difficulties' in using forward interest rates in this way. On the first major difficulty, he advised that the appropriate predictor of a future interest rate is not the forward rate but the forward rate less the term premium.⁹⁵ On estimating the term premium, Lally stated:

However, the sizes of the term premiums vary over time and they are not precisely determinable. So, any attempt to estimate the extent to which an interest rate at a given point in time is a biased predictor of a subsequent rate would be fraught with difficulty.

Lally concluded:

...in choosing an interest rate to serve as the best predictor of the rate prevailing at a particular future point in time, the best interest rate will be that which is closest in time to the predicted date.⁹⁶

As is clear from the Tribunal's decision, the Tribunal's view on the usefulness of forward interest rates was based on its view that the relevant rate of return is that required by investors at the start of each year of the regulatory control period rather than the rate required at the start of the regulatory control period. The AER does not agree with this position, as explained above.

The problems associated with using forward interest rates that Lally raised were in the context of predicting the 'spot' interest rate at the start of the regulatory control period—a period only two months after the publication of the AER's final decision. If forward interest rates are an unsuitable predictor of interest rates over such a short time horizon, they would appear to be at least an equally unsuitable predictor of the 'spot' interest rate at more distant points in the future (which is the context in which the Tribunal considered them).

Accordingly, there are both in principle and practical difficulties with using forward interest rates in determining the risk free rate.

In the ActewAGL matter there was some debate between the experts on the use of forward interest rates, in a context that involves a deemed MRP value. That aside, Justice Katzmann concluded:

Whether or not the criticism of the AER's decision is valid, I very much doubt the AER is bound by the statutory scheme to deploy forward rates to make the averaging period decision.⁹⁷

⁹⁴ Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator* [2011] FCA 639, 8 June 2011, paragraph 145.

⁹⁵ Lally advised this is because the 'expectations hypothesis' is not a satisfactory characterisation of the term structure of interest rates. Lally went on to explain that even if the expectations hypothesis held, the use of forward interest rates to assess two different averaging periods is still a flawed approach. M. Lally, *Expert report of Martin Thomas Lally*, 13 February 2011, p. 15 (Lally, *Expert report*, February 2011).

⁹⁶ Lally, *Expert report*, February 2011, p. 15.

Based on the Federal Court's view, the AER concludes that the use of forward interest rates to assess averaging periods is not a requirement of the NER (let alone the NGR). Based on Lally's advice, the AER also concludes there are sound economic reasons for not using forward interest rates. The AER has not used forward interest rates to assess SP AusNet's proposed averaging period.

For the above reasons, the AER considers that the Tribunal's comments do not demonstrate that an averaging period as close as practically possible to the commencement of the regulatory control period is not appropriate.

B.1.6 The Telstra matter

The AER has reviewed the Tribunal decision in *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010. The Tribunal's reasons appear to support the approach adopted by the AER in this decision.

Like this decision, the Telstra matter also involved the appropriate estimation of the risk free rate at a time when CGS yields were 'low' compared to historically observed rates. The ACCC adopted a 4.51 per cent risk free rate. Telstra submitted the risk free rate was 6.33 per cent.⁹⁸

Telstra submitted that the global financial crisis had significantly impacted on the yields of CGS resulting in an anomalous or unrepresentative risk free rate value during the relevant averaging period. The Tribunal disagreed. The Tribunal considered:

The dispute turns on whether the data derived over the period chosen by the ACCC is anomalous or unrepresentative.

The risk free rate refers to the return from an asset with no risk of default. There is every reason to assume (and little evidence to doubt) that the yields on commonwealth bonds over this period continued to provide an accurate proxy for a return on assets bearing no risk of default. To the extent that the yields factored the impacts of the global financial crisis, the bond rate continued to provide a representative indicator of the risk-free rate.

It is also not unusual for yields to move from time to time in order to reflect prevailing market conditions and the expectations about the prospect for prices into the future. A downward movement in yields over this period is therefore hardly anomalous, given market conditions.⁹⁹

The Tribunal also stated that Telstra's proposal introduced value judgements. This is similar to the AER's findings, in this Appendix, that a long term average creates the potential for arbitrariness and introduces subjectivity into the estimation of the risk free rate. The Tribunal considered:

... that the approach advanced by Telstra would impose an obligation on the regulator (or the Tribunal) to make value judgments. Those value judgments include whether the period over which the data is taken is in some manner unusual, and whether the data derived is in some way anomalous or unrepresentative of the value that should apply to

⁹⁷ Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009] ACompT 8*, 12 November 2009, paragraph 145.

⁹⁸ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 364.

⁹⁹ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 415-417.

that parameter. This could involve predicting future rates, although means are available to do that.¹⁰⁰

It is clear that the Tribunal did not consider that the decrease in CGS yields caused by the effects of the global financial crisis impinged upon CGS yields being an appropriate proxy for the risk free rate.¹⁰¹

The Tribunal made its position clear that CGS yields during the global financial crisis remained representative of the risk free rate. The mere fact that the yields were 'low' did not change this conclusion.

The averaging period in the Telstra matter was in March to April 2009 and resulted in a risk free rate of 4.51 per cent. The indicative averaging period adopted by the AER for SP AusNet is in August 2012 and results in a risk free rate of 2.98 per cent. The Tribunal's reasons why CGS yields remained an appropriate proxy for the risk free rate in March to April 2009 continue to apply in August 2012.

B.1.7 The expectations theory on the term structure of interest rates

In sections 4.3.2 and 4.3.4 the AER raised the concept of the term structure of interest rates and the relevance of the 'expectations theory' when considering a forward looking estimate of the risk free rate. The expectations theory provides support for the use of prevailing 10 year CGS yields as forward looking estimates. The theory is further explained in this section.

The expectations theory is generally regarded as an important part of the explanation of the term structure of interest rates.¹⁰² The term structure is also commonly referred to as the yield curve.¹⁰³ As Brailsford, Heaney and Bilson describe:

[The expectations theory] says that the only reason for an upward-sloping term structure is that investors expect future spot rates to be higher than current spot rates; and the only reason for a declining term structure is that investors expect spot rates to fall below current levels. The expectations hypothesis also implies that investing in short-term bonds...gives exactly the same return as investing in long-term bonds.¹⁰⁴

The expectations theory suggests then that current yields on long-dated bonds incorporate current market yields on short dated bonds and expectations of future market yields on short dated bonds. This relationship is explained in the following mathematical expression¹⁰⁵:

¹⁰⁰ Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 418.

¹⁰¹ In a recent determination process Aurora Energy Pty Ltd submitted that the Tribunal's comments at paragraph 422 supported a departure from a short term average approach. The AER does not take the same interpretation of those comments. Further discussion can be found in the Aurora final determination. AER, *Final distribution determination: Aurora Energy Pty Ltd 2012–13 to 2016–17, Appendixes*, April 2012, p. 11–13 (section A.1.4).

¹⁰² E. Elton, M. Gruber, S. Brown and W. Goetzmann, *Modern Portfolio Theory and Investment Analysis*, Wiley: Eighth edition, 2010, pp. 516–521.

¹⁰³ G. Peirson, R. Brown, S. Easton and P. Howard, *Business Finance*, McGraw-Hill: Eighth edition, 2003, p. 103.

¹⁰⁴ T. Brailsford, R. Heaney, and C. Bilson, *Investments: concepts and applications*, Nelson Australia Pty Ltd: Third edition, 2007, p. 710.

¹⁰⁵ T. Brailsford, R. Heaney, and C. Bilson, *Investments: concepts and applications*, Nelson Australia Pty Ltd: Third edition, 2007, p. 156.

$$(1 + R_0^n) = (1 + R_0^1)(1 + E_0[R_1^2]) \dots (1 + E_0[R_{n-1}^n])$$

Where:

$E_0[R_s^n]$ = expected nominal yield per annum for the period from time s to time n , with expectations formed at time 0

R_0^s = nominal yield per annum observed now for the period 0 to s

The expectations theory is not the only theory that has been developed to explain the term structure of interest rates. Other theories are the 'liquidity premium theory', the 'segmented markets theory' and the 'preferred habitat theory'.

The expectations theory is unlikely to provide a complete explanation of the term structure of interest rates.¹⁰⁶ There are many factors that may influence the term structure. Notwithstanding this, the expectations theory provides an important and relevant understanding of the term structure of interest rates.

B.2 Market risk premium

While SP AusNet proposed an MRP of 6 per cent with a long term historical average risk free rate, it used estimates of dividend growth model (DGM) and NERA's regime switching model to provide cross-checks. SP AusNet submitted DGM and regime switching model estimates are genuinely forward looking measures of the MRP.¹⁰⁷ The AER also considered other methods (namely, the SFG method and the VAA implied volatility glide path approach) because they are other forms of forward measure, currently do not support an MRP above 6 per cent, but have been previously proposed by the businesses.

In this appendix, the AER considers:

- further analysis on the use of arithmetic and geometric averages to estimate historical excess returns
- survey evidence:
 - an assessment of survey evidence against the criteria suggested by the Australian Competition Tribunal in the Envestra matter
 - an explanation of 'triangulation' and its use in refining survey evidence
- DGM estimates
- consultants' view
 - CEG's approaches

¹⁰⁶ These concerns have been raised by Lally when considering the use of forward interest rates to predict future interest rates. Lally, *Expert report*, February 2011, p. 15–17.

¹⁰⁷ SP AusNet, *2013-2017 gas access arrangement review - access arrangement information*, 30 March 2012, p. 171

- Capital Research's DGM estimates
- NERA's regime switching model
- the report by Professor McKenzie and Associate Professor Partington
- Associate Professor Lally's advice
- the SFG method (implied volatility, credit spread and dividend yield)
- VAA's implied volatility glide path approach
- further analysis of NERA's regime switching model
- further analysis of the SFG method (implied volatility, credit spreads, dividend yields)
- further analysis on the VAA implied volatility glide path approach
- market commentary
- reasons for the AER's departure from the WACC review.

After considering all available approaches to estimate the MRP, the AER applied its judgement and considered an MRP of 6 per cent, as proposed by SP AusNet, is the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds¹⁰⁸.

B.2.1 Arithmetic and geometric averages of historical excess returns

Historical excess market returns are highly sensitive to the method of averaging returns over multiple periods. Handley, for example, found the historical excess market return (relative to bonds) for the period 1958-2011 was 3.5 per cent using a geometric average or 6.1 per cent using an arithmetic average.¹⁰⁹

If returns vary over time, then a geometric average will always be less than an arithmetic average—the greater the volatility in returns is, the greater is the difference between an arithmetic average and a geometric average.¹¹⁰ With the level of volatility present in historical stock market returns, a difference of around 200 basis points (2 per cent) is common. Box B.1 uses a simple numeric example to explain the difference between an arithmetic average and a geometric average.

Box B.1 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

¹⁰⁸ R. 87, NGR

¹⁰⁹ J. Handley, *An estimate of the historical equity risk premium for the period 1883 to 2011*, April 2012, p.6. Estimates are based on an assumed value of imputation credits of 0.35.

¹¹⁰ 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).

are related to each other over time—for example, if yearly excess returns are the relevant observations, then 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 is, the greater is 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.

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 value and 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%.

If 0 per cent annual return is applied to the index for two years, then the index is at 100 by the end of year 2. This zero return is consistent with the outcome that the index has not changed after two years. By contrast over a two year investment horizon, the arithmetic average would overstate the return because the index value has not changed after two years.

However, if the investment horizon is one year, then 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. In this example, we assume either a loss of 20 per cent or a gain of 25 per cent. Assuming these outcomes are 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 averaging of historical excess returns over multiple periods. It considered the arithmetic average of one year historical excess returns overstates the arithmetic average of 10 year historical excess returns. It held this position in the *Envestra South Australia* decision (and subsequent decisions)¹¹¹, so had regard to both arithmetic and geometric averages in considering the appropriate value for the MRP in this decision.

In July 2011, *Envestra* sought review by the Australian Competition Tribunal of the AER's reliance on geometric averages, among other matters.¹¹² In that matter, the AER considered the following:

¹¹¹ See: AER, *Final decision: Envestra Ltd access arrangement proposal for the SA gas network 2011–2016*, June 2011, p. 191 (AER, *Final decision: Envestra access arrangement SA*, June 2011); AER, *Final decision: Envestra Ltd access arrangement proposal for the Qld gas network 2011–2016*, June 2011, p. 179 (AER, *Final decision: Envestra access arrangement Qld*, June 2011); AER, *Final distribution determination, Aurora Energy Pty Ltd 2012–13 to 2016–17*, April 2012, p. 145 (AER, *Final decision: Aurora distribution determination*, April 2012); AER, *Final decision: APTPL access arrangement*, August 2012, p. 69.

¹¹² See Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012 and Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 4*, 11 January 2012.

- 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. The historical excess return evidence available to the AER was based on this one year returns. Accordingly, the AER interpreted the (one year return) data based on the strengths and weaknesses of how closely the data reflected the relevant benchmark (being a 10 year rate, expressed in annual terms).
- Mathematically, if the one year historical excess returns are variable, then the arithmetic average of one year historical excess returns overstates the arithmetic average of 10 year historical excess returns. This overstatement occurs because the process of averaging one year returns does not account for the cumulative effect of returns over a 10 year horizon.
- Also mathematically, if the one year historical excess returns are variable, then the geometric average of one year historical excess returns understates the arithmetic average of 10 year historical excess returns.
- The AER concluded 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 averages of annual excess returns.¹¹³

The Tribunal stated it did not have to decide this matter, but made some comments. It appeared to agree with the AER when noting:

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.¹¹⁴

The AER considered a report prepared by SFG in the Roma to Brisbane Pipeline process. In that report, SFG submitted it was wrong to place any reliance on geometric averages and to the extent that reliance is (incorrectly) placed on geometric averages, the resulting MRP estimate is downwards biased. SFG presented a Harvard Business School case note in support of this position.¹¹⁵

The AER sought advice from McKenzie and Partington on the SFG report and Harvard Business School case note. In their February 2012 supplementary MRP report, McKenzie and Partington explained the Harvard case study 'assumes away the source of bias in arithmetic averages'.¹¹⁶ The AER does not consider it is appropriate to assume no uncertainty about the

¹¹³ Corrs Chambers Westgarth, *Appendix B – market risk premium, the Australian Energy Regulator's submissions*, 11 November 2011, pp. 17–18.

¹¹⁴ Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT3*, 11 January 2012, paragraph 157.

¹¹⁵ SFG, *Market risk premium, Report for APT Petroleum Pipelines Ltd*, 11 October 2011, p. 16 (SFG, *MRP for APTPPL*, October 2011).

¹¹⁶ 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 probability of measuring the MRP as discussed in the MRP section largely goes away. See further discussion at: M. McKenzie and G. Partington, *Report to the AER, Supplementary report on the equity market risk premium*, 22 February 2012, pp. 5–6 (McKenzie and Partington, *Supplementary report on the MRP*, February 2012).

mean of the distribution when analysing historical excess returns. Accordingly, it did not find SFG's evidence persuasive.

SFG also submitted the MRP in the CAPM is an expected return, so the arithmetic average (not the geometric average) 'must' be used.¹¹⁷ The Tribunal previously dismissed this argument when Envestra presented it:

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.¹¹⁸

McKenzie and Partington supported the AER's view. After a review of literature on arithmetic and geometric averages, they concluded:

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.¹¹⁹

The AER also considered a recent NERA report, which argued against using geometric averages¹²⁰. NERA argued the WACC is used to determine regulated revenue using the building block equation; this equation deals with one year returns. Similarly, the AER noted the advice from Lally that no compounding effect occurs in regulatory situations. Without a compounding effect, the arithmetic mean is preferable to geometric mean if annual returns are independent and drawn from the same distribution.¹²¹

The AER noted 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.¹²² Further as shown in attachment 4, the arithmetic averages of historical excess returns range from 4.9 to 6.1 per cent. Accordingly, even if the AER were to only rely on the arithmetic average, this would not change its position on the appropriate MRP value.

In the Envestra matter, the Tribunal also queried whether there is a method to produce an unbiased estimate. It stated 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 is available. They analysed alternative proposals in the literature and concluded in their February 2012 MRP report that no single best estimator is indisputably best for long run excess returns. Given current knowledge, McKenzie and Partington recommended the use of both arithmetic averages and geometric averages, tempered by an understanding of their

¹¹⁷ SFG, *MRP for APTPPL*, October 2011, p.1 8.

¹¹⁸ Australian Competition Tribunal, Application by Envestra Ltd (No 2) [2012] ACompT3, 11 January 2012, paragraph 157.

¹¹⁹ McKenzie, M. and G. Partington, Supplementary report on the MRP, 22 February 2012, pp.5–7.

¹²⁰ NERA, *Prevailing conditions and the market risk premium: A report for APA Group, Envestra, Multinet and SP AusNet*, March 2012, pp. 3–15 (NERA, *Prevailing conditions and the MRP*, March 2012).

¹²¹ M. Lally, *The cost of equity and the market risk premium*, 25 July 2012, pp. 31–32 (Lally, *Cost of equity and the MRP*, July 2012).

¹²² The AER's consideration was discussed in detail in 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. 295–296.

inherent biases.¹²³ The advice of McKenzie and Partington supported the AER continuance with its current approach.

The AER notes the consultants have different views, which need assessing 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. It is aware of potential deficiencies with both averages, so does not exclusively rely on one or the other. In attachment 4.3.3, the AER had regard to both arithmetic and geometric averages of historical excess returns tempered by an understanding of the biases associated with these averages.

B.2.2 Survey evidence

Addressing the Tribunal's comments on the use of survey evidence

The AER considers survey results are relevant as they reflect the forward looking MRP applied in practice. The Tribunal reviewed the final decision for Envestra, which included the issue regarding the use of survey evidence to inform the value of MRP. The Tribunal stated while it did not have to decide this matter, it made a few comments:¹²⁴

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 raised similar questions about the use of survey evidence. About the surveys that the AER cited, NERA stated:¹²⁵

- the surveys typically do not explain how those surveyed were chosen
- a majority of those surveyed did not respond
- it is unclear what incentives were provided to ensure respondents would provide accurate responses
- whether respondents supplied MRP estimates that use continuously compounded or not continuously compounded returns is unclear
- the risk-free rate that respondents use is unclear
- the relevance of some of the surveys is unclear given changes in market conditions since the surveys were conducted.

¹²³ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 7–9.

¹²⁴ Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 165-166.

¹²⁵ NERA Economic Consulting, *The market risk premium: A report for CitiPower, Jemena, Powercor, SP AusNet and United Energy*, 20 February 2012 (NERA, *MRP for the Vic electricity DNSPs*, February 2012), p.31.

In light of the Tribunal's comments, the AER engaged McKenzie and Partington to review the Tribunal's criteria on survey evidence. The following sections discuss the main findings of McKenzie and Partington and the AER's own review. These findings apply to much of the concerns raised by NERA.

Timing of the survey

The AER considers the timing of the surveys is reasonably clear: Across the surveys, it ranged from 2000 to February 2011. Comparison of survey results over different time periods can provide information on how market practitioners' perception of the MRP change over time. By considering survey results for the past 10 years, the AER notes market participants have not changed their view on the MRP. This consistency in survey responses over time suggests the AER can reasonably rely on the earlier surveys.

Sample of respondents

Financial managers, expert valuers, actuaries and finance academics were the target respondents of surveys. These professionals apply the MRP, so the AER considers the surveys' target populations can make informed judgments about the MRP. McKenzie and Partington supported this view in their February 2012 MRP report.¹²⁶ In their August 2012 report, McKenzie and Partington further noted many surveys clearly described the selection of the sample surveyed. These academic papers would be published only with a clear explanation of how the sample was chosen.¹²⁷

Wording of survey questionnaires

The quality of questionnaire wording is important for reducing bias and promoting the accuracy of survey results. The AER agrees with McKenzie and Partington that the adequacy of survey wording can be subjective to judge and often relies on the quality of the authors.¹²⁸

It also agrees 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 to be peer reviewed. In the latter case, a stable set of questions allows comparison of responses over time. With repeated surveys, the observed changes over time are less susceptible to issues with the wording. Further, any significant problems with wording and respondents' interpretation of questions may be detected and corrected over time.¹²⁹ In terms of the surveys cited here, most were published in refereed journals and/or repeated over time.¹³⁰ The AER is thus reasonably satisfied with the adequacy of the wording in the survey questionnaires.

¹²⁶ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, p. 17.

¹²⁷ M. McKenzie, and G. Partington, Report to the AER: Review of regime switching framework and critique of survey evidence, 7 September 2012, p.27. (McKenzie and Partington, *MRP: regime switching framework and survey evidence*, September 2012, p.27)

¹²⁸ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, p. 17-18.

¹²⁹ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 17–18.

¹³⁰ Truong, Partington and Peat (2008) and Asher (2011) were published in academic journals. Fernandez surveys are repeated over time. KPMG (2005), Capital Research (2006) and Bishop (2009) are neither of these.

Adjustment for imputation credits

The AER noted some surveys implicitly acknowledged imputation credits:

- Truong, Partington and Peat (2008) found 15 per cent of responses adjusted for the value of imputation credits. Of the remaining 85 per cent of responses, the main reasons given for not adjusting for imputation credits were:
 - it was too difficult
 - it would have a very small impact
 - it was unnecessary because the market already adjusts stock prices for the value of imputation credits, which are thus already reflected in the cost of capital estimate.
- In Asher (2001) survey, 27 of 49 respondents indicated they adjusted their MRP estimates for imputation credits.

The AER also notes other surveys suggested respondents do not typically allow for imputation credits. Even for the surveys that discussed imputation credits, the extent of adjustments made to the MRP estimate was unclear. McKenzie and Partington acknowledged this uncertainty and noted any adjustment for imputation would likely be within the margin of measurement error. They thus recommended the AER take the survey evidence at face value, but tempered by the uncertainty of whether an imputation credit adjustment is needed.¹³¹ The AER accounted for this uncertainty when interpreting survey evidence.

Survey response rate and non-response bias

The AER considers a sufficient level of response rate is important for survey evidence. But what constitutes a sufficiently large sample is subjective. McKenzie and Partington suggested a sample size of more than 30 is sufficiently large statistically so a representative sample of 30 respondents is expected to be adequate.¹³² Most surveys considered in this decision received around 30 responses.

The AER recognises low response rates are a common problem with the survey evidence. However, while the number of responses in a survey is important, the main concern is whether respondents are representative of the target population. That is, for some reason, non respondents may systematically favour a different MRP from that of the respondents of the survey. McKenzie and Partington supported this view.¹³³

A direct assessment of representativeness is difficult because the responses of the non-respondents are unknown. McKenzie and Partington noted Graham and Harvey (2010) concluded the response rate is not a significant concern for representativeness, for the following reasons:

- The response rate was within the range documented in many other survey studies.

¹³¹ McKenzie, and Partington, MRP: *regime switching framework and survey evidence*, September 2012, p. 28.

¹³² McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 17–18.

¹³³ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 18–19.

- 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) were qualitatively identical to those for the Internet survey (to which 8 per cent responded)
- Brav, Graham, Harvey and Michaely (2005) contrasted survey responses to archival data from Compustat and found archival evidence was consistent with the responses from the survey sample.
- Campello, Graham, and Harvey(2010) showed the December 2008 response sample was fairly representative of the firms included in the commonly used Compustat database.

The AER recognises the surveys considered in this decision do not specifically address the non-response bias. However, Graham and Harvey's findings are likely to apply to the other survey evidence, so the AER is reasonably satisfied low response rates or a potential non response bias is not reason to exclude the survey evidence from consideration.

Triangulation

McKenzie and Partington placed weight on the survey evidence because triangulation across surveys enhanced their confidence in the results. The idea behind triangulation is that a specific survey may be subject to a type of bias, even if that bias is not evident. However, this problem would be much less likely to be consistent across surveys with diverse methods and different target populations.

McKenzie and Partington illustrated triangulation in survey evidence considered by the AER. They found the Australian surveys conducted using different methods and different target populations at different times supported 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 a MRP of 6%, thus confidence is enhanced that the MRP used by experts is 6%.¹³⁴

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, it improves the reliability of survey results.

Conclusion on survey evidence

Survey evidence reflects the forward looking MRP when applied in practice. It is subject to 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 survey based

¹³⁴ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, p. 20.

estimates of the MRP are relevant to inform the forward looking MRP. In this decision, it considered a range of survey evidence conducted in different time periods and targeted at different respondents. The evidence supported a forward looking MRP of 6 per cent as the best estimate in the current circumstances.

B.2.3 DGM estimates

DGM analysis can provide 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 the DGM based estimates of the return on equity and inferred estimates of the MRP are highly sensitive to the assumptions made. If all assumptions are not sound, estimated results from DGM analysis may be inaccurate.¹³⁵ McKenzie and Partington supported this view 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.¹³⁶

In the WACC review and its recent decisions, the AER considered the following:

- The implied MRP produced by DGM estimates is sensitive to both the model specification and the exact point in time of estimation.
- No input assumptions are reliable. 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). Associate Professor Lally advised such proxies are likely to produce an upward bias in the MRP estimates.¹³⁷
- Regulators had previously been wary to lower the MRP when DGM estimates were below 6 per cent.¹³⁸ The AER is similarly wary to increase the MRP (based on DGM estimates) even though the DGM estimates can produce estimates above 6 per cent.
- At the WACC review, academics (Officer and Bishop, and CEG) and industry representatives (ENA) considered DGM estimates should be used only as a 'cross check' on the reasonableness of other methods to estimate the MRP, rather than as the primary method.¹³⁹

¹³⁵ 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'. R. Brealey, S. Myers and F. Allen, *Principles of Corporate Finance*, McGraw-Hill Boston: 9th International Edition, 2008, p. 95.

¹³⁶ McKenzie, and Partington, *Report to Corrs Chambers Westgarth: Equity market risk premium*, 21 December 2011, p. 25 (McKenzie and Partington, *Equity market risk premium*, December 2011).

¹³⁷ Lally, *Cost of equity and the MRP*, July 2012, pp. 11–18.

¹³⁸ AER, *WACC review final decision*, May 2009, p. 220.

¹³⁹ AER, *WACC review final decision*, May 2009, pp. 218–219.

- Although DGM is extensively used by the US economic regulators in estimating the return on equity¹⁴⁰, it is not well accepted for use in the Australian context.¹⁴¹

The AER considered submissions advocating DGM inferred MRP estimates. CEG, Capital Research, NERA and Lally all recommended the DGM for estimating a forwarding looking MRP. The DGM estimates derived by CEG, Capital Research and NERA supported an MRP estimate above 6 per cent. But, while DGM based analysis can provide information on the expected MRP, the AER considers the limitations discussed below limit the emphasis that should be attached to that analysis.

DGM estimates and its assumptions

BHP,¹⁴² McKenzie and Partington,¹⁴³ and Lally¹⁴⁴ supported the view that DGM estimates are highly sensitive to the assumptions made. Further, different consultants produce widely different DGM based MRP estimates over a short period. Table B.2 illustrates the consultants' current estimates, which range from 6.18 per cent to 9.56 per cent.

Table B.2 Recent DGM based MRP estimates produced by consultants

	Dividend yield	Dividend per share growth	RFR	MRP estimate
CEG (March 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%
Capital Research (Mar 2012)	6.29%	7.00%	3.73%	9.56%
NERA (Feb 2012)	Bloomberg and IBES forecasts	5.65%	3.96%	7.72–7.75%
NERA (Feb 2012)	Bloomberg and IBES forecasts	5.65%	5.50%	6.18–6.21%
NERA (March 2012)	Bloomberg and IBES forecasts	5.65%	3.99%	7.69–7.72%

Sources: CEG, Capital Research, Capital Research, NERA.

In the February 2012 report, Capital Research estimated an implied MRP range of 6.6 to 7.5 per cent. In estimating this range, it assumed a compound average growth rate of 7 per cent based on analysts' forecast, and a theta value of between 0 and 0.5.¹⁴⁵ Capital Research's analysis demonstrated the sensitivity of the DGM analysis to its assumptions. It illustrated an increase of 0.5 in the theta assumption translates to a 0.8 to 1.2 per cent increase in the implied MRP.¹⁴⁶ Further, in the March 2012 report, Capital Research updated this estimate to

¹⁴⁰ CEG, Risk free rate and MRP in the CAPM, March 2012, p.38.

¹⁴¹ The AER understands that the US might have better quality data for DGM analysis.

¹⁴² BHP Billiton, *Submission to the AER: APA GasNet access arrangement proposal*, 29 June 2012, pp. 13–14.

¹⁴³ McKenzie and Partington, *Equity market risk premium*, 21 December 2011, pp. 23–7.

¹⁴⁴ Lally, *Cost of equity and the MRP*, July 2012, pp. 15–18.

¹⁴⁵ 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, *MRP estimate for the Aurora determination*, February 2012).

¹⁴⁶ Capital Research, *MRP estimate for the Aurora determination*, February 2012, Table 2, p.21.

9.6 per cent (an increase of more than 2 per cent) with a more recent risk free rate and a net theta value of 0.2625.¹⁴⁷

NERA's DGM estimates also illustrated this problem. NERA estimated an MRP of 5.06 per cent in February 2011 based on the DGM analysis. Using the same dividend yield and growth assumptions, the MRP estimate was at 8.01 per cent in December 2011—a difference of 295 basis points.¹⁴⁸ This difference was a result of the lower risk free rate. Table B.3 illustrates the sensitivity of NERA's DGM analysis to different risk free rates.

Table B.3 NERA MRP estimates with different risk free rates

Risk free rate	Dividend yield	Dividend per share growth	MRP estimate
5.47%	Bloomberg consensus forecasts	5.65%	5.06%
3.99%	Bloomberg consensus forecasts	5.65%	7.69%
3.67%	Bloomberg consensus forecasts	5.65%	8.01%

Source: NERA, *Prevailing conditions and the market risk premium*, March 2012, pp. 39 and 50.

Similarly, tables 1.4-1.6 below illustrate how sensitive CEG's DGM based estimate is to different assumptions. The MRP estimates move 'one-for-one' with the changes in assumptions.

Table B.4 MRP estimates with different growth assumptions

DPS growth	Div yield	RFR	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.5 MRP estimates with different dividend yield assumptions

DPS growth	Div yield	RFR	MRP estimate
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¹⁴⁷ Capital Research, *Forward estimate of the market risk premium: Update: A report prepared for the Victorian gas transmission and distribution businesses: APA Group, Envestra, Multinet Gas and SP AusNet*, March 2012, p. 33 (Capital Research, *MRP estimate for the Vic NSPs*, March 2012).

¹⁴⁸ NERA, *Prevailing conditions and the market risk premium: A report for APA Group, Envestra, Multinet and SP AusNet*, March 2012, pp. 49–50 (NERA, *Prevailing conditions and the MRP*, March 2012).

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

Table B.6 MRP estimates with different prevailing risk free rates

DPS growth	Div yield	RFR	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

Bias in DGM estimates

Lally noted other problems with the DGM analysis:

- At a given time, the estimated cost of equity for the market is assumed to be the same for all future years. This ‘perfect offsetting’ hypothesis is implausible.
- The method assumes 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 resulting estimate of the market risk premium will be too high.
- Short term fluctuations in the market’s earnings retention rate have a significant impact on the estimates. The DGM method does not account for these changes.¹⁴⁹

In addition to the above limitations, Lally identified two further problems with the 8.5 per cent MRP estimate derived by CEG:

- By using the 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 gross domestic product. This outcome is logically impossible.¹⁵⁰

Lally considered the net effect of these two problems is to overestimate the MRP by about 1 per cent. This overestimation is additional to the limitations discussed above.¹⁵¹

¹⁴⁹ Lally, *Cost of equity and the MRP*, 25 July 2012, pp. 15–18.

¹⁵⁰ Lally, *Cost of equity and the MRP*, 25 July 2012, pp. 18–20.

¹⁵¹ Lally, *Cost of equity and the MRP*, 25 July 2012, p. 20.

The AER also considered a report by Capital Research in 2005, which derived negative MRP estimates from DGM analysis for the period 1980–2004. 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.¹⁵²

Similarly, the AER notes the CEG AMP method was producing MRP estimates 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. Lally supported this view:

...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.¹⁵³

The AER notes DGM analysis is producing high positive MRP estimates. However, it is not aware of evidence suggesting the estimates derived from DGM analysis are more reliable now than in 1994. Further, no new information has come to light that causes the AER to rely more on DGM estimates.

B.2.4 Consultants' views

The AER considered views from different consultants on the best estimate of the MRP. These views included:

- views submitted by SP AusNet in support of its proposal—that is, the CEG approaches, Capital Research DGM estimates, and NERA regime switching model
- advice received by the AER—that is, the McKenzie and Partington report and Lally's advice
- approaches proposed by other regulated businesses in recent regulatory processes—that is, the VAA implied volatility glide path approach and the SFG method.

Different consultants have widely different views. After carefully assessing these views, the AER places limited emphasis on DGM, the regime switching model, implied volatility glide path approach and other financial market indicators in estimating the value of the 10 year forward looking MRP. Its reasons are set out below.

CEG's approaches

CEG proposed three alternative approaches to estimate the cost of equity:

- use DGM to directly estimate the cost of equity for comparable firms
- use DGM to estimate the cost of equity for the market portfolio and derive a DGM estimate for the MRP

¹⁵² Capital Research, *Australian market risk premium*, January 2005, pp. 31–32.

¹⁵³ Lally, *Cost of equity and MRP*, 25 July 2012, p. 22.

- estimate a normal level for cost of equity for the reference service and make adjustments based on the current market evidence.¹⁵⁴

The DGM estimates proposed by CEG are subject to the same limitations as discussed in the previous section. Lally further noted the CEG approaches are subject to problems, including errors in the AMP method, exposure to fluctuations in the earnings payout rate and ambiguity over the appropriate averaging period.¹⁵⁵ The AER considers these problems are relevant, so places limited emphasis on the CEG approaches.

Capital Research's DGM estimates

Capital Research advocated using DGM to directly estimate the forward MRP. It suggested the best forward looking MRP is 9.6 per cent, assuming a risk free rate of 3.73 per cent and a net theta of 0.2625.¹⁵⁶

Capital Research's DGM estimate is subject to the same limitation as discussed in the DGM section. In addition, the DGM assumes growth at a constant rate in perpetuity. Capital Research use analysts' forecast dividend growth as a proxy.¹⁵⁷ Analysts' forecast is often based on short to medium terms. The AER considers using analysts' forecast growth rate in the DGM analysis is likely to result in an upward bias in the MRP. McKenzie and Partington supported this view:

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).¹⁵⁸

NERA's regime switching model

NERA produced DGM estimates of 7.69 and 7.72 per cent based on Bloomberg and I/B/E/S forecasts. However, NERA proposed a regime switching model would provide the most suitable MRP in the prevailing market condition. This model is highly complex and involves:

- determining the appropriate assumptions of high and low volatility states
- estimating the current probability of being in the high volatility state
- using a Markov chain to roll over this probability
- calculating a short term MRP in relation to the three month bill return
- deriving a forward one year bill rate
- converting the short term MRP to a five year MRP.¹⁵⁹

¹⁵⁴ CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 49.

¹⁵⁵ Lally, *Cost of equity and the MRP*, 25 July 2012, pp. 11–23.

¹⁵⁶ Capital Research, *MRP estimate for the Vic NSPs*, March 2012, p. 33

¹⁵⁷ Capital Research, *MRP estimate for the Vic NSPs*, February 2012, pp.19–23.

¹⁵⁸ McKenzie and Partington, *Equity market risk premium*, December 2011, p. 26.

¹⁵⁹ NERA, *Prevailing conditions and the MRP*, March 2012, pp. 24–31.

The AER is not aware of any regulators that used a regime switching model in deriving their MRP estimates. Further, this complex process could create errors in calculation.¹⁶⁰ In their August 2012 report, McKenzie and Partington found the NERA regime switching model is not a good fit of the data and does not provide sensible volatility estimates. They also noted the SFG report that reviewed the NERA regime switching model did not provide insights to address this problem.¹⁶¹ Section B.2.5 details the AER's considerations of the NERA regime switching model.

McKenzie and Partington report

In their December 2011 MRP report, McKenzie and Partington considered four areas of evidence: historical excess returns, survey evidence, DGM analysis and other methods (including using international data, credit spreads and implied volatilities). They advised placing weight on historical excess returns and survey evidence; DGM and other methods can be used only as reasonableness checks and need to be interpreted with caution. McKenzie and Partington concluded there is little persuasive evidence for deviating from the long standing regulatory consensus of a market risk premium estimate of 6 per cent. If anything, the risk with this estimate is that it may prove to be an overstatement.¹⁶² McKenzie and Partington remained of this view in their February 2012 and August 2012 report, after having reviewed further materials submitted by businesses.¹⁶³ The AER accepts McKenzie and Partington's advice and considers their approach supports an MRP estimate of 6 per cent.

Lally's advice

Lally reviewed the AER's current approach and three approaches suggested by CEG. Lally found a number of problems with the CEG DGM approach and concluded DGM should be considered as a complement to rather than a substitute for the AER's current approach.¹⁶⁴

The AER considers that Lally broadly supported the methodology to estimating the MRP adopted by the AER. In addition to the historical excess returns and survey evidence, Lally advised weight should also be placed on other methodologies including the Siegal approach, the DGM analysis and results from international markets.¹⁶⁵

SFG's method

SFG proposed the three financial market indicators (implied volatility, credit spread and dividend yield) for estimating a 10 year forward looking MRP:

¹⁶⁰ For example, NERA estimated the probability of the market remaining in the high volatility state was 0.935 per cent and the probability of it remaining in the low volatility state was 0.951 per cent. However, NERA estimated probability of the high volatility state for 2012–2016 based on the probability of it remaining in the low volatility state (0.951).

¹⁶¹ McKenzie, and Partington, MRP: *Regime switching framework and critique of survey evidence*, September 2012, pp. 21–22.

¹⁶² McKenzie, and Partington, *Equity market risk premium*, December 2011, pp. 36-37.

¹⁶³ McKenzie, and Partington, Supplementary report on the MRP, February 2012, p.5.
McKenzie, and Partington, MRP: *Regime switching framework and critique of survey evidence*, September 2012, pp. 24–25.

¹⁶⁴ Lally, *Cost of equity and the MRP*, 25 July 2012, p. 3.

¹⁶⁵ Lally, *Cost of equity and the MRP*, 25 July 2012, p. 34.

- Implied volatility relies on contentious assumptions to derive an MRP estimate.¹⁶⁶ In particular, the assumption that the price of risk per unit of implied volatility is constant is disputed on theoretical and empirical grounds.¹⁶⁷ As noted above, this method provides only a short term estimate of the MRP (usually three 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 the relevant MRP is the 10 year forward looking rate, the AER placed 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. Similarly, relative debt spreads will differ based on the method chosen to measure the bond yields. McKenzie and Partington noted this method has no well developed, reliable and precise way to separate out the effect of changes in the MRP from other effects.¹⁶⁸ Given this key limitation to the credit spread analysis, the AER placed limited weight on this method when determining the 10 year forward looking MRP.
- Dividend yield in this context this 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 unclear relationship (if any) between dividend yield and the 10 year forward looking MRP.

Section B.2.6 details the AER's assessment of the three financial market indicators.

VAA's implied volatility approach

In its 2010 report, the VAA suggested an implied volatility glide path approach in estimating the MRP.¹⁶⁹ It derived the one year MRP estimate from the Black-Scholes option pricing formula for 12 month ASX200 index call options, then estimated a geometric average MRP over five years. The AER considers this approach is not a reliable method of estimating a forward looking 10 year MRP. It has the following concerns with this approach:

- The MRP estimate relies on an assumption that the market risk per unit of option implied volatility is constant at 0.5.
- Academic literature suggests option implied volatility is too highly variable to be used as a basis for estimating the forward looking 10 year MRP.
- Projecting MRP estimates on this short term basis can result in highly variable estimates being produced over different short periods of time.¹⁷⁰

Section B.2.7 details the AER's consideration of implied volatility.

¹⁶⁶ Further, the appropriate measure of implied volatility is difficult to determine, with different measures (based on different underlying options) producing conflicting figures.

¹⁶⁷ See discussions in AER, Draft decision: Envestra Ltd: Access arrangement proposal for the SA gas network 2011–2016, 17 February 2011, pp. 282–283 (AER, *Draft decision: Envestra access arrangement SA*, February 2011).

¹⁶⁸ McKenzie, and Partington, *Equity market risk premium*, 21 December 2011, pp. 30–31.

¹⁶⁹ VAA, Market risk premium: *Comments on the AER draft distribution determination for Victorian electricity distribution network service providers*, July 2010, p. 19 (VAA, MRP for Vic electricity DNSPs, July 2010).

¹⁷⁰ The Australian Competition Tribunal also recognised this view, in the DBNGP decision. See: Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraphs 153–154.

B.2.5 NERA regime switching model

NERA estimated an MRP of 8.44 per cent from the regime switching model. NERA submitted this estimate provided the most suitable guide to the MRP prevailing in the market because it provided an estimate of the MRP in each future year.¹⁷¹

NERA's regime switching model was based on Hamilton (1989), in which the probability of being in each state is governed by a Markov chain (the probability of being in the high-volatility state next year will depend only on whether the process is currently in the high-volatility state). It calculated continuously compounded MRP estimates for each of the five future years using Brailsford, Handley and Maheswaran (2011) data and annualised 3 month bill rates. NERA then converted these continuously compounded MRP estimates into average not continuously compounded return of 8.44 per cent.¹⁷² SFG peer reviewed NERA's regime switching model. SFG concluded NERA's approach is appropriate for obtaining a prevailing MRP estimate in current circumstances.¹⁷³

The AER engaged McKenzie and Partington to review this approach. They concluded the NERA regime switching model was not a good fit of the data and did not provide sensible volatility estimates. McKenzie and Partington fitted Handley (2012) data to a number of models. Although none of the switching models fit the data particularly well, relatively, the restricted switching model was the best fit. Further, McKenzie and Partington examined a simple GARCH model and found this model was more consistent with events in the equity markets than regime switching models. They advised the AER to reject NERA's approach on the grounds of misspecification of the functional form of the model.¹⁷⁴

McKenzie and Partington's view is relevant. The AER does not consider NERA's regime switching model can provide the best MRP estimate prevailing in the market when this model is misspecified.

The AER also notes this model uses a Markov chain to govern the transition from one state to another. The stochastic nature of the states implies there is great uncertainty of the estimated current state. Tsay (2010) noted it is much harder to estimate a Markov switching model than other models because the states are not directly observable.¹⁷⁵ McKenzie and Partington illustrated this uncertainty with the Brailsford, Handley and Maheshwan (2012) data:

... Figure [9] also features two horizontal dashed lines that represent one and two standard deviations of this data. These standard deviation based reference points serve to highlight the arbitrary nature of the two regime approach NERA (2012) take to modelling volatility. One could just as easily argue that rather than two regimes (high and low), a three regime approach is more sensible with a low, average and high volatility regime classified using these standard deviation based reference points. In fact, an

¹⁷¹ NERA, *Prevailing conditions and the MRP*, March 2012, p. 42.

¹⁷² NERA, *Prevailing conditions and the MRP*, March 2012, pp. 24-31.

¹⁷³ SFG, *Review of NERA regime-switching framework: Report for APA Group, Envestra, Multinet Gas and SP AusNet*, 29 March 2012, p. 8 (SFG, *Review of NERA regime-switching framework*, March 2012).

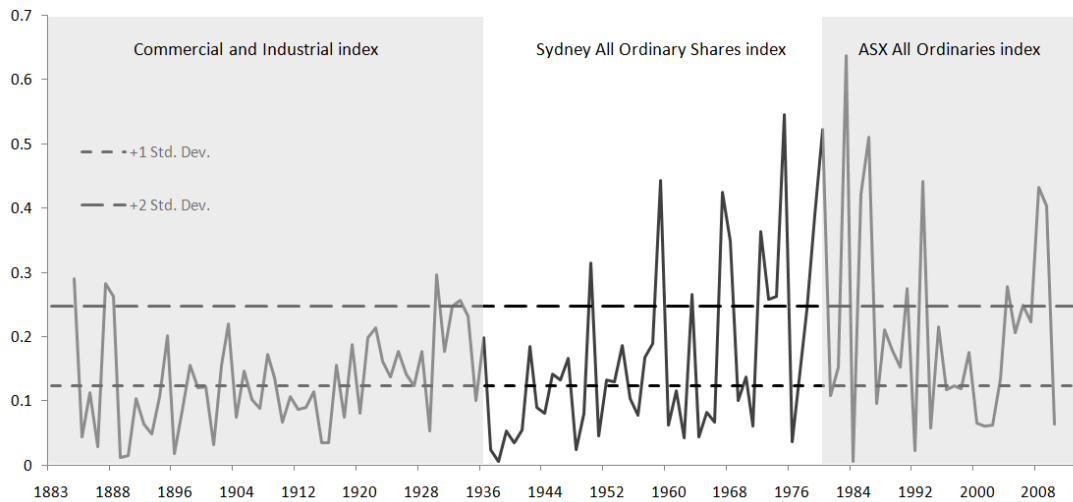
¹⁷⁴ McKenzie and Partington, *MRP: Regime switching framework and critique of survey evidence*, September 2012, pp. 5–25.

¹⁷⁵ R. Tsay *Wiley series in probability and statistics: Analysis of financial time series*, Wiley: Third edition, 2010, p. 187.

n-regime approach is possible, where n is > 1, with no compelling argument to be made

for any one approach. The two regime model is certainly easier to estimate, however, ease of estimation is not a particularly valid justification for model choice.¹⁷⁶

Table B.7 Brailsford, Handley and Mahareswan (2012) data with different source indices highlighted



Source: McKenzie and Partington, *Review of regime switching framework and critique of survey evidence*, 27 August 2012, Figure 9

B.2.6 SFG financial market indicators

The AER considered the use of other financial market indicators put forward in recent SFG reports as relevant to the estimation of the prevailing MRP. SFG used 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.¹⁷⁷

The SFG approach using financial market indicators was put forward:

- by Envestra in March 2011 as part of the South Australia and Queensland gas access arrangements¹⁷⁸
- by APTPPL (a subsidiary of APA Group) in October 2011 as part of the Roma to Brisbane Pipeline gas access arrangement¹⁷⁹

¹⁷⁶ McKenzie and Partington, *MRP: Regime switching framework and critique of survey evidence*, September 2012, p. 20.

¹⁷⁷ SFG, *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).

¹⁷⁸ SFG, *Issues affecting the estimation of MRP: Report for Envestra*, 21 March 2011

¹⁷⁹ SFG, *MRP for APTPPL*, October 2011.

- by the Victorian electricity distribution network service providers (noting the overlap in ownership between these businesses and the Victorian gas networks) in a February 2012 submission on Aurora's regulatory determination¹⁸⁰

This technique was not proposed by SP AusNet in this review. The Victorian gas networks (including APA Group) did jointly commission two reports from SFG on the estimation of the MRP,¹⁸¹ but neither report included this technique.

Before assessing the combined SFG approach, the AER considers below each of the three financial market indicators put forward by SFG as relevant to the estimation of 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.¹⁸² Hence, the term of the implied volatility will accord with the option term—usually three months, but ranging between one year and one month.¹⁸³ The underlying principle is that higher implied volatility is indicative of higher risk and consequently a higher MRP.

The AER considered the use of implied volatility to inform the forward looking MRP in the WACC review and its previous decisions.¹⁸⁴ The AER considers it cannot be used directly to estimate the MRP for the following reasons:

- Term mismatch—the implied volatility measures are short term and there is no reasonable method to extrapolate to a longer term, but the relevant MRP term is 10 years.¹⁸⁵
- Measurement problems—different implied volatility measures produce different (and sometimes conflicting) results. Further, there is evidence that these measures are systematically biased (upwards).¹⁸⁶
- 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 example, if the current implied

¹⁸⁰ SFG, Conditional and unconditional MRP for the Vic DNSPs, 20 February 2012

¹⁸¹ SFG, *Review of NERA regime-switching framework, Report for APA Group, Envestra, Multinet Gas and SP AusNet*, March 2012; and SFG, *Market risk premium: Response to selected issues arising out of the AER final decision for Envestra (South Australia), Report for APA Group, Envestra, Multinet and SP AusNet*, 29 March 2012 (SFG, *Response on the MRP for the Vic DNSPs*, March 2012).

¹⁸² The Black-Scholes option pricing model is most often used, but other methods are possible.

¹⁸³ To clarify, options are sold with different maturities beyond this range, but the implied volatility calculations are found only at these short term horizons.

¹⁸⁴ See AER, *Final decision: WACC review*, May 2009, pp. 231–234; AER, *Draft decision: Envestra access arrangement SA*, February 2011, pp. 282–283; and AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 196–197.

¹⁸⁵ See the discussion below on the VAA implied volatility glide path approach; also see AER, *Draft decision: Envestra access arrangement SA*, February 2011, pp. 282–283; and AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 196–197.

¹⁸⁶ See the discussion of Chernov (2007) and Santa-Clara and Yan (2010) in AER, *Draft decision: Envestra access arrangement SA*, February 2011, pp. 282–283; and AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 196–197.

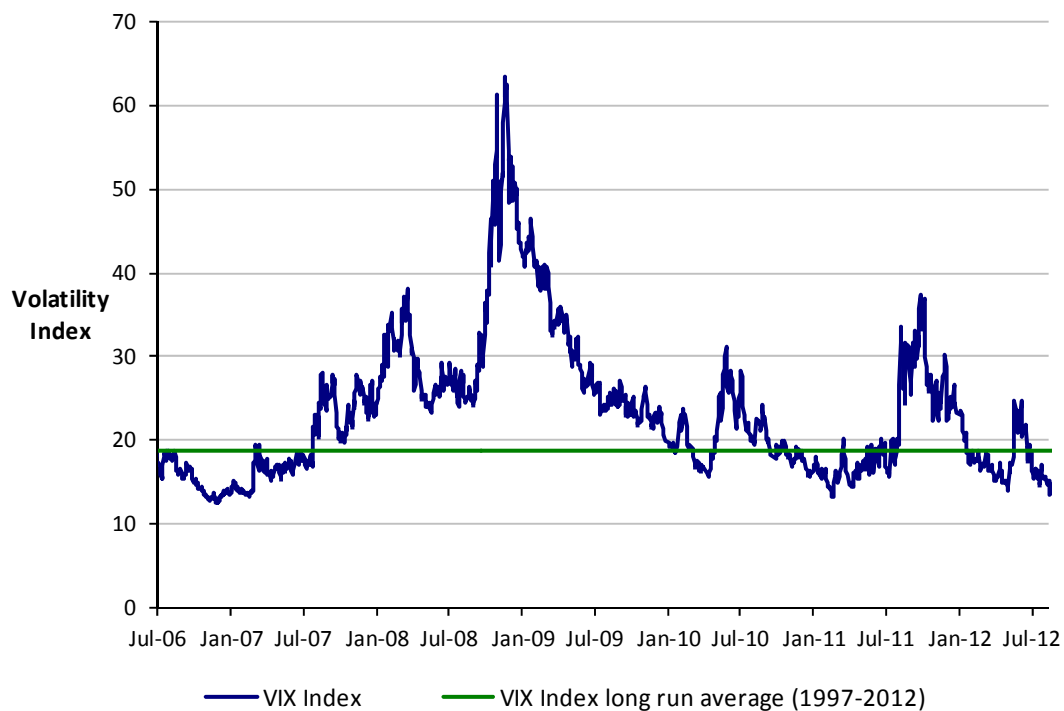
volatility is double the long run average, then the MRP will also be double its long run average. This assumption is disputed on theoretical and empirical grounds.¹⁸⁷

The AER's view is shared by McKenzie and Partington who concluded in their February 2012 supplementary MRP report:¹⁸⁸

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.

When using its conditioning variables approach, SFG assessed implied volatility using 3 month options over the S&P/ASX 200 (labelled the Citibank Volatility Index or VIX). In its various reports, SFG stated that since the VIX was above its long run average, this indicated that the MRP was similarly above its long run average.¹⁸⁹ Figure B.7 shows the value of this measure of implied volatility relative to its long run average level across the period since the global financial crisis.

Figure B.7 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.

¹⁸⁷ McKenzie, and Partington, *Supplementary report on the MRP*, 22 February 2012. Also see the discussion of Doran (2005) in AER, *Draft decision: Envestra access arrangement proposal SA*, February 2011, pp. 282–283; and AER, *Final decision: Envestra access arrangement proposal SA*, June 2011, pp. 196–197.

¹⁸⁸ McKenzie, and Partington, *Supplementary report on the MRP*, 22 February 2012, pp. 26–27

¹⁸⁹ Since the SFG assessment of implied volatility is relative to the 'baseline' long run average, the choice of baseline period is particularly important to the final result. The AER has previously noted that SFG inappropriately chose a shorter (post 2000) baseline period in its analysis, rather than the longest available data series; see AER, *Final decision: APTPL access arrangement*, August 2012, pp. 222, 225–226.

As is evident from this figure, implied volatility is quite variable and can change substantially in months. The AER considers that this variability suggests implied volatility is not a reliable method to estimate the MRP. Figure also shows that although implied volatility rose dramatically during the GFC, this peak has subsided and the level of implied volatility has dropped below the long run average on several occasions.

SFG advocated using the most recent data available when inferring the current MRP from implied volatility.¹⁹⁰ Using data updated to 10 August 2012, it measures at 15.2 per cent, slightly below the long run average of 18.8 per cent (measured from the commencement of the data series in 1997). If this latest point estimate is used to inform the forward looking 10 year MRP, it appears to support a value at or slightly below the long term average MRP (that is, 6 per cent).¹⁹¹

Credit spreads

SFG also proposed the use of credit spreads to inform the estimation of the MRP. The idea 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.¹⁹²

The AER considered the use of credit spreads to inform the forward looking MRP. But the AER considers a direct comparison of the yield on debt and the MRP is problematic. McKenzie and Partington supported this view for the following reasons:¹⁹³

- McKenzie and Partington expected 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. A combination of default premiums and liquidity premiums, therefore drove up returns in debt markets.
- Given the GFC, the default risk component of the credit spread might reasonably be expected to have increased. Consequently, much of the change in debt yields during and after the GFC is likely 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. Because 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 outcome would have happened even if the MRP, or debt betas, did not change.
- An increase in credit spreads due to increased default risk does not automatically require a shift in the MRP. 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 when there

¹⁹⁰ However, it appeared that SFG did not always update its reports to include the most recent data, even allowing for a short practical delay encompassing analysis and publication. See AER, *Final decision: APTPL access arrangement*, August 2012, pp. 218–226.

¹⁹¹ 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.

¹⁹² SFG, *MRP APTPL*, October 2011, p. 11.

¹⁹³ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 21–23.

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 the same way 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. A data provider generally aggregates the dividend forecasts from reports by different equity analysts, with the forecast horizon generally one year. The dividend yield is thus a simple indicator of the expected return to equity holders through dividends (although not allowing for capital gains/losses or imputation credits) over the next year. While closely related to the DGM, dividend yields are a different direct indicator of MRP.¹⁹⁴

SFG stated higher dividend yields indicate a higher MRP. It is based this claim on several academic studies that found a statistically significant relationship when using dividend yields to predict equity market returns.¹⁹⁵ 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 the dividend yield for the Australian share market at 31 January 2012 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).¹⁹⁶

But the AER does not use the dividend yield approach to inform its MRP estimate because evidence of a relationship between the two is insufficient. While the AER acknowledges the three reports cited by SFG¹⁹⁷ a broader consideration of the academic literature (by McKenzie and Partington) does not indicate the relationship is statistically reliable.¹⁹⁸ The AER agrees with McKenzie and Partington's conclusion on this matter.¹⁹⁹

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 the underlying mechanism relating dividend yields and the MRP (as presented by SFG) is not persuasive. SFG appears to overlook other factors that could result

¹⁹⁴ More specifically, the DGM includes consideration of changes in dividends beyond the immediate dividend forecast horizon.

¹⁹⁵ SFG, MRP for APTPPL, October 2011, p. 9.

¹⁹⁶ 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 the Vic DNSPs, February 2012, p. 29.

¹⁹⁷ Fama and French (1988, 1989) and Keim and Stambaugh (1986); see also Cochrane (2011) cited by McKenzie and Partington.

¹⁹⁸ 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.

¹⁹⁹ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, p. 23.

in a higher observed dividend yield even when the MRP was unchanged (or lower).²⁰⁰ The forecast horizon for the dividends is short (generally one year); so a reduction in expected dividends beyond this point would 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. McKenzie and Partington explained this point.²⁰¹ The dividend yield calculation does not account for expectations about capital gain or loss. So, a change to expect relatively more of the total return from dividends instead of capital appreciation would also result in a higher dividend yield, even if the MRP did not change.

Finally, as with the other financial market indicators, as assessed higher than average dividend yield is predicated on an accurate estimate of the baseline figure. SFG calculated its long run average using data from 2000, but did not justify using this time period.²⁰² In this case, the relevant data series is available back to 1973.²⁰³ Using the longer data series would result in a higher baseline dividend yield. In turn, this increase would reduce the extent to which the current dividend yield was above the average and thus support a lower MRP.

Updated data using SFG method

Across recent reports, the conditioning variables presented by SFG have been relatively high. The core argument from SFG is that where there is a consistent pattern across these three financial market indicators, the prevailing MRP will be consistent with this pattern. For instance, if all three indicators are above their long run average, the prevailing MRP will be similarly above its long run average.

Table B.8 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.8 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.9 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

²⁰⁰ 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.

²⁰¹ McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 12–13.

²⁰² SFG, *Conditional unconditional MRP for teh Vic DNSPs*, February 2012, p. 12.

²⁰³ That is, the data series used by SFG and provided by them to the AER commences at this point.

relative debt spread figures, because there is no reasonable data available. The table includes the uncorrected relative debt spread figures for comparative purposes.

Table B.9 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 10 August 2012	-0.49	+0.76	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.9, 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 slightly 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 7 months out of date).²⁰⁴

The AER does not consider SFG's approach, using three financial market indicators to establish a conditional MRP, 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.2.7 VAA implied volatility glide path

VAA previously proposed the use of option implied volatility combined with a 'glide path' to estimate the forward looking MRP.²⁰⁵ The VAA approach has been put forward:²⁰⁶

- by the Australian Pipeline Industry Association (the industry group that represents all of the Victorian gas networks) in its January 2009 submission to the AER's WACC review²⁰⁷

²⁰⁴ To prevent misinterpretation, the AER does not consider that this figure is reliable.

²⁰⁵ The AER has previously referred to this technique as 'Officer and Bishop's implied volatility glide path', recognising that the authors of the VAA reports mentioned in this section are Professor Bob Officer and Dr Steven Bishop.

²⁰⁶ In addition to those listed below, the VAA approach has also been put forward by ETSA (SA electricity transmission) in June 2009, Westnet Energy (WA gas distribution) in December 2009 before the ERA, in a published journal article, and by NBN Co (national telecommunications) in December 2011 before the ACCC. VAA, *Market risk premium: An estimate for 2010 to 2015: Prepared for ETSA*, June 2009; VAA, *Market risk premium: Estimate for January 2010 – June 2014: Prepared for WestNet Energy*, December 2009; S. Bishop, M. Fitzsimmons, and B. Officer, *JASSA The Finsia Journal of Applied Finance*, 'Adjusting the market risk premium to reflect the global financial crisis', May 2011 (Issue 1 2011), pp. 8–14 (Bishop, Fitzsimmons and Officer (2011)); and VAA, *Report on WACC component of NBN Co's Special Access undertaking*, December 2011.

²⁰⁷ VAA, *Market risk premium: Further comments: Prepared for Energy Networks Association, Australian Pipeline Industry Association and Grid Australia*, January 2009.

- by the Victorian electricity distribution network service providers (noting the overlap in ownership between these businesses and the Victorian gas networks) in their 2010 regulatory determination,²⁰⁸ as well as the 2011 Advanced Metering Infrastructure determination²⁰⁹
- by Envestra in the South Australia and Queensland gas access arrangements in 2011.²¹⁰

The AER considered this approach, although SP AusNet did not propose it in this review.

Like the DGM and NERA's regime switching model, the VAA's approach estimates the prevailing MRP. Since the MRP estimate generated from implied volatility will have the same horizon as the underlying options, VAA estimated the MRP based on a 'glide path' approach. The basis of this technique is to:

- first, estimating the volatility implied by the Black-Scholes option pricing formula for 3 month or 12 month S&P/ASX 200 index options.
- second, converting this to a short term (3 month or 12 month) estimate of the MRP by assuming a constant market risk per unit of option implied volatility (in the range of 40–50 basis points per unit of risk)
- third, estimating the geometric average MRP over five years assuming the MRP would revert (glide) down from the short term MRP estimate to a long term historical average.

VAA has considered different possible glide paths, such as a quicker return to the long term average, or a sustained elevated period before the decline commences. VAA has also given some consideration to 1 month and 6 month options, overseas implied volatility estimates, and the use of realised volatility (that is, the observed historical volatility using a rolling window containing the previous 30 or 90 days of data) as a proxy for implied volatility.

The AER has already set out above (in the discussion of SFG's approach using financial market indicators) concerns with using implied volatility when estimating the MRP. Further to those general concerns, the AER considers that the VAA implied volatility approach:

- inappropriately determines the baseline long run average implied volatility by using a different data series—the realised volatility of a 90 day data window for the S&P/ASX 30 from 1980 onwards.²¹¹ Using this (historical) realised volatility series results in a long run average volatility of 14 per cent. The actual long run average of one of the (forward looking) implied volatility series used by VAA (3 month VIX) is 18.8 per cent. Adopting the higher baseline would reduce the MRP estimated using the VAA approach in all scenarios.

²⁰⁸ VAA, *Market Risk Premium: Estimate for 2011–2015: Draft*, October 2009; and VAA, *MRP for Vic electricity DNSPs*, July 2010. Note that although labelled as 'draft', the October 2009 report was submitted by the service provider as a finalised report.

²⁰⁹ VAA, *Market Risk Premium, An update prepared in response to the draft determination by the AER on the Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, August 2011.

²¹⁰ VAA, *Comments on the Market Risk Premium in Draft Decision by AER for Envestra February 2011*, March 2011 (VAA, MRP for Envestra, March 2011).

²¹¹ VAA, MRP for *Envestra*, March 2011, p. 4 (footnote 7). Further, VAA appears to end its baseline period in 2009 even when using implied volatility data up to the end of 2010. See Bishop, Fitzsimmons, and Officer (2011), pp. 9, 14 (endnote 5).

- incorrectly calculates the price per unit of implied volatility using a 'long run historical average MRP' of 7 per cent, when the evidence indicates that this value is 6 per cent.²¹² Adopting the lower historical average MRP would reduce price per unit of volatility, which in turn reduces the MRP estimated using the VAA approach in all scenarios.

The AER also has concerns with the glide path approach used to extend this (short term) implied volatility estimate. The glide path approach incorporates a variable three or twelve month estimate of implied volatility and then combines it with a long term historical estimate over a five year time horizon.²¹³ The AER has previously noted the realised MRP could be below long term estimates in some years. The glide path approach excludes this possibility by construction. The AER also noted that the VAA approach averages five years of MRP estimates, and that this is inconsistent with the 10 year horizon assumed for the risk free rate. Further, the time period for reversion cannot reasonably be determined. Figure 1.1 demonstrates that from the peak, it took just 15 months for implied volatility to fall back below its long run average. This is considerably shorter than the three year reversion period preferred by VAA in their reports.

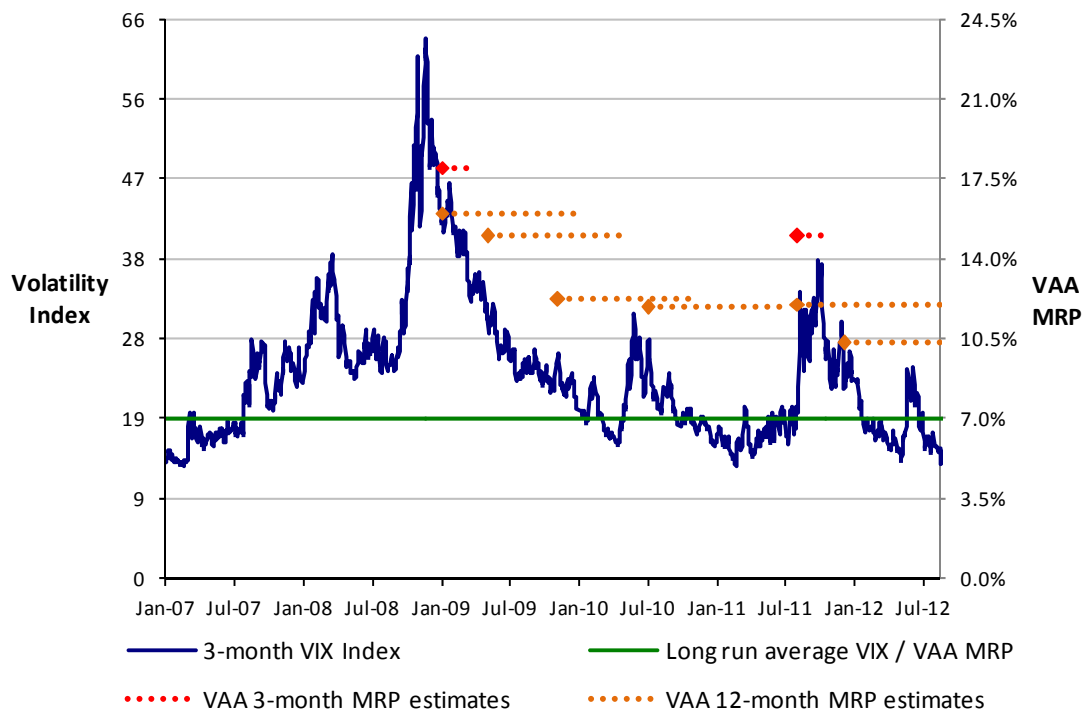
As noted above, although implied volatility was high during the worst of the GFC, the current level is below the long run average. Using data updated to 10 August 2012, it measures at 15.2 per cent, slightly below the long run average of 18.8 per cent (measured from the start of the data series in 1997). It is not entirely clear what glide path would be proposed by VAA in these circumstances, since no VAA report has been submitted where implied volatility was below the long run average.

Figure B.8 shows the same implied volatility measure as the previous figure, generated from 3 month options on the S&P/ASX 200 (plotted against the left hand axis). Superimposed on this are a number of MRP estimates submitted by VAA (plotted against the right hand axis), with a diamond marking the date of the report. These are the implied volatility estimates prior to the application of a glide path. Accordingly, the MRP estimates are for either 3 months or 12 months, as per the underlying option—this is shown by a dashed line extending across the relevant time period. This figure has been rescaled such that the long run average volatility (18.8 per cent, plotted against the left hand axis) matches the long run average MRP proposed by VAA (7 per cent, plotted against the right hand axis).

²¹² The AER sets out earlier in this decision its analysis of the historical excess return series.

²¹³ A geometric average of the five years is used.

Figure B.8 Implied volatility and VAA MRP estimates



Source: Citibank VIX implied volatility index (3 month put/call options on S&P/ASX 200), sourced via Bloomberg code CITJAVIX; VAA reports; AER analysis

Figure B.8 shows the central relationship of the VAA implied volatility glide path approach—where the implied volatility is above its long run average, VAA considers that the MRP will also be above its long run average. In current circumstances, where implied volatility is below its long run average, the VAA approach to estimating the prevailing MRP would indicate that it is below the long run average.

The AER does not consider that VAA's implied volatility glide path approach 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 estimate of 6 per cent (or slightly below). Market commentary and economic outlook

General market commentary and economic outlook provided by eminent bodies gives useful insights into the current and future state of the financial market. However, because most commentaries do not specifically refer to returns in equity markets, the link between the market commentary and the MRP is difficult to quantify. Consistent with comments by the Australian Competition Tribunal in a recent decision²¹⁴ and the views of Multinet²¹⁵ and SFG²¹⁶, the AER places limited weight on this evidence.

²¹⁴ Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 4*, 11 January 2012, paragraph 161.

²¹⁵ Multinet, Access arrangement information, 30 March 2012, Appendix H-1, pp. 5–6.

²¹⁶ SFG, Response on MRP for the Vic DNSPs March 2012, pp. 18–19.

B.2.8 Reasons for the AER's departure from the WACC review

The AER agrees with the view of SFG that the AER's decision to increase the MRP to 6.5 per cent in mid 2009 was not well justified.²¹⁷ It was being conservative at a time of significant uncertainty. In the WACC review at that time, the AER considered a range of evidence to decide on the best estimate of the forward looking 10 year domestic MRP. Acknowledging significant uncertainty in financial markets, it considered one of two scenarios could explain the market conditions:

- either the prevailing medium term MRP was above the long term MRP, but would return to the long term MRP over time, or
- a structural break had occurred in the MRP, and the forward looking long term MRP (and thus also the prevailing MRP) was above the long term MRP that previously prevailed.²¹⁸

These reasons led to the AER's departure from the previously adopted value of 6 per cent. The GFC was a significant event, and its magnitude should not be understated. However, the impact of the GFC for Australian capital markets was moderate relative to international experience. The alternative scenario contemplated by the AER in the WACC review does not warrant keeping the MRP above the long run average in perpetuity. Information and data available since the release of the WACC review suggests the prevailing medium term MRP has not been above the long term MRP. The AER reached this conclusion based on the following evidence:

- Survey measures since the height of the GFC accord with those from before the GFC.²¹⁹
- Implied volatility since the height of the GFC has returned to its long run average.²²⁰

Cyclical trends are observed in financial markets over time and typically involve shifts between periods of strong economic growth (boom) and periods of relative stagnation or sharp decline (recession). The fluctuations in financial markets are unpredictable, and cycle duration varies from more than a year to 12 years.²²¹ When an investor considers the likely return across a 10 year horizon, these cyclical fluctuations are a normal experience. The long term expected return takes account of the expected future investment growth and decline. That is, the long term MRP has always been determined in the inevitable presence of these business cycles.

McKenzie and Partington noted the AER's decision in the WACC review to increase the MRP to 6.5 per cent was not well justified. In their February 2012 MRP report, they stated:

We further consider that the decision to increase the MRP by 0.5% for a ten year regulatory period was not well justified as we would not expect the crisis conditions and extreme volatility to extend over such a long period. With the benefit of observing what

²¹⁷ SFG, *Market risk premium: response to selected issues arising out of the AER final decision for Envestra (South Australia)*, 29 March 2012, p. 5.

²¹⁸ AER, *Final decision: WACC review*, May 2009, p. 238.

²¹⁹ See Fernandez (2009), Fernandez and Del Campo (2010), Fernandez et al. (2011), Asher (2011).

²²⁰ For clarity, the AER notes the differing opinions on the implications of implied volatility measurements for the long run MRP. This statement does not depend on such an assessment. Rather, the return of the implied volatility index to the pre-GFC average indicates this indicator of financial markets conditions did not undergo a structural break.

²²¹ Burns and Mitchell, *Measuring business cycles*, National Bureau of Economic Research, 1946.

has happened post-GFC it is appropriate for the AER to move back to the relatively safe ground of the unconditional MRP of 6% rather than persist with the conditional MRP of 6.5%. To put it another way the conditions justifying the shift to a conditional MRP have substantially abated so there is good reason to move back to the unconditional MRP.²²²

The AER has developed its understanding since the WACC review. Now, rather than increasing the MRP due to any short term effects, it considers it is reasonable to determine a long term (10 year) forward looking MRP.

The Energy Users Coalition of Victoria (EUCV) supported this view:

Regulated firms were supportive of the AER increasing the MRP in the depths of the GFC because the outcome increased their WACCs at a time when there was great uncertainty. The result of this move was to over-provide a rate of return for a considerable period and provide an unearned and unnecessary benefit to regulated firms. Quite sensibly the AER reduced the MRP when stability returned to the market as a whole and it was seen that the WACC based on a MRP of 650 bp was then providing a WACC that was excessive. Such an approach reflected the requirement for setting an efficient WACC based on best practice – both aspects that are explicitly required by the Gas Rules.²²³

B.3 Reasonableness checks on overall rate of return

In attachment 4, the AER evaluates the evidence on each WACC parameter individually. It also takes into account the interdependencies between WACC parameters where relevant. In this section the AER evaluates the overall rate of return derived from the individual WACC parameter values. The AER considers its determined overall rate of return is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.²²⁴ In turn, the AER considers this overall rate of return provides a reasonable opportunity for SP AusNet to recover at least its efficient costs.²²⁵

In this appendix, the AER examines:

- assets sales
- trading multiples
- broker WACC estimates
- recent decisions by other regulators and the AER
- recent decisions by overseas regulators
- the relationship between the cost of equity and the cost of debt.

²²² McKenzie, and Partington, Supplementary report on the MRP, February 2012, pp. 28–30.

²²³ Energy Users Coalition of Victoria, *Submission to the AER: Envestra, Multinet and SP Ausnet access arrangement proposal*, 18 June 2012, p. 57.

²²⁴ NGR, rule 87(1).

²²⁵ NGL, section 24

B.3.1 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:²²⁶

- 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.²²⁷

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 B.10 from most recent to least recent.

²²⁶ 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.

²²⁷ 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 B.10 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	0.95 ²²⁸
Dec-06	APA	Directlink	1.45
Oct-06	APA	Allgas	1.64
Aug-06	APA	APA GasNet	2.19
Apr-06	Alinta	AGL Infrastructure assets	1.41-1.52
Mar-06	APA	Murraylink	1.47

Source: DUET²²⁹, APA²³⁰, 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.²³¹ Further details on this transaction can be found in the AER's draft decision for the QLD/SA gas distribution networks.²³²

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.²³³ These transactions were at multiples of 1.20, 0.95 and 1.13 respectively.

²²⁸ 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: DBNGP access arrangement*, 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.

²²⁹ DUET, *ASX announcement: Presentation to Macquarie Retail Adviser Network*, 19 January 2012, p. 3, viewed 9 February 2012, <<http://www.asx.com.au/asxpdf/20120119/pdf/423tx0cd2v7qq3.pdf>>.

²³⁰ APA Group, *ASX announcement: Completion of the sale of 80% of Allgas*, 16 December 2011, viewed 10 January 2012, <<http://www.asx.com.au/asxpdf/20111216/pdf/423b5mnt9sqvzh.pdf>> (APA Group, *ASX announcement on sale of Allgas*, December 2011).

²³¹ AER, *Final decision: Country Energy Gas Pty Ltd: Access arrangement proposal for the Wagga Wagga natural gas distribution network, 2010–2015*, March 2010 and Envestra, *ASX announcement: Envestra's to acquire NSW gas networks - Market presentation*, 26 October 2010, pp. 3, 6–7, viewed 10 January 2012, <<http://www.asx.com.au/asxpdf/20101026/pdf/31tcv1nblp4xqc.pdf>>.

²³² AER, *Draft decision: Envestra access arrangement SA*, February 2011, p. 63.

²³³ DUET, *ASX announcement: Completion of AET&D sale process*, 29 July 2011, viewed 9 February 2012, <<http://www.asx.com.au/asxpdf/20110729/pdf/420312nw1jxhdv.pdf>>

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.²³⁴

APA stated that net funds released from the sale were \$477 million after transaction costs and the net enterprise value was \$526 million.²³⁵ 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.²³⁶

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.²³⁷ 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.²³⁸

As Grant Samuel has previously explained, listed infrastructure entities should theoretically trade at, and be acquired at, 1.0 times the RAB.²³⁹ 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.²⁴⁰ This suggests the AER's approach in this decision will also provide SP AusNet with a reasonable opportunity to recover efficient costs.

²³⁴ APA Group, *ASX announcement on sale of Allgas*, December 2011

²³⁵ APA Group, *ASX announcement on sale of Allgas*, December 2011

²³⁶ Allgas is a holding company that also owns the unregulated Moura pipeline and the Gatton-Gympie easement.

²³⁷ 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.

²³⁸ Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 78.

²³⁹ Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 77.

²⁴⁰ Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

B.3.2 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.²⁴¹

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.

Recent broker reports have identified RAB trading multiples.²⁴² These multiples are consistently greater than one, as shown in Table B.11 to **Error! Reference source not found.** None of these multiples are less than or equal to one.

Table B.11 JP Morgan trading multiples

Date of report	Company	2010–11	2011–12
10 August 2012	DUET	1.26	1.18
24 August 2012	ENV	1.20	1.25
27 August 2012	SKI	1.26	1.22
29 August 2012	SPN	1.21	1.20

Source: JP Morgan²⁴³

Table B.12 Macquarie trading multiples

Date of report	Company	2011	2012
1 August 2012	DUET	1.14	1.17
27 August 2012	SKI		1.35
28 June 2012	SPN	1.16	1.17

Source: Macquarie Group²⁴⁴

²⁴¹ 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.

²⁴² The AER has reported trading multiples from reports published in August 2012—noting that the brokers do not always provide these figures (one report from June 2012 was included). Where possible, trading multiples for the previous year have also been presented to provide context, but only for those broker reports where a recent (August 2012) update was available.

²⁴³ JP Morgan, *Envestra Limited: FY12 Result - dividend growth held back by regulatory concerns*, 24 August 2012, p. 6; JP Morgan, *DUET Group: FY12 Result Preview*, 10 August 2012, p. 5; JP Morgan, *Spark Infrastructure Group: 1H12 result earnings strength driven by regulatory tariff increases*, 27 August 2012, p. 7; and JP Morgan, *SP AusNet: AER decision positive, but risk remains*, 29 August 2012, p. 9.

²⁴⁴ Macquarie, *DUET Group, Curtain call*, 1 August 2012, p. 3; Macquarie, *Spark Infrastructure Group, ETSA sparkles through reliability*, 27 August 2012, p. 1; Macquarie, *SP AusNet, Cash generation set to improve*, 28 June 2012, pp. 1, 8.

Table B.13 Credit Suisse trading multiples

Date of report	Company	2012
7 August 2012	DUET	1.14
7 August 2012	ENV	1.32
7 August 2012	SKI	1.36
7 August 2012	SPN	1.14

Source: Credit Suisse²⁴⁵

Table B.14 Bank of America Merrill Lynch trading multiples

Date of report	Company	2012
23 August 2012	ENV	1.10
27 August 2012	SKI	1.39

Source: Bank of America Merrill Lynch²⁴⁶

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.²⁴⁷

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, 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.²⁴⁸

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.²⁴⁹

²⁴⁵ Credit Suisse, *Regulated Utilities Monthly, Sector review*, 7 August 2012, p. 10.

²⁴⁶ Bank of America Merrill Lynch, *Envestra Limited, Earnings review, Flat divi in FY13*, 23 August 2012, p. 5; Bank of America Merrill Lynch, *Spark Infrastructure Group, Earnings review, Solid underlying cash flows*, 27 August 2012, p. 5.

²⁴⁷ Spark Infrastructure, *2012 Fact Book*, 27 February 2012, p. 9.

²⁴⁸ 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.

²⁴⁹ Macquarie, *DUET Group: Limited RAB growth, At fair value*, 8 November 2011, p. 2.

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.²⁵⁰

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.²⁵¹ This suggests the AER's approach in this decision will also provide SP AusNet with a reasonable opportunity to recover efficient costs. .

B.3.3 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 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

²⁵⁰ Australian Energy Market Commission, *Directions Paper*, 2 March 2012, p. 108.

²⁵¹ Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

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.²⁵²

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.²⁵³

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 reports²⁵⁴
- 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.²⁵⁵ 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

Based on this analysis, Table B.15 sets out the range for the broker WACC estimates (converted to a nominal vanilla WACC) which is 7.76-10.02 per cent.²⁵⁶ The nominal vanilla rate of return determined by the AER for SP AusNet in this draft decision is 7.16 per cent. This is approximately 60 basis points below the range of the broker WACC estimates.

²⁵² Australian Competition Tribunal, *Application by Envestra Ltd (No 2)[2012] ACompT 3*, 11 January 2012, paragraph 166.

²⁵³ Australian Competition Tribunal, *Application by Envestra Ltd (No 2)[2012] ACompT 3*, 11 January 2012, paragraph 167.

²⁵⁴ 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.

²⁵⁵ 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.

²⁵⁶ The table presents broker reports from August 2012.

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 B.15 Broker WACC estimates (per cent)^{a,b}

Measure	Minimum	Maximum
Broker headline post-tax WACC	6.50	8.60
Calculated nominal vanilla WACC	7.76	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.

B.3.4 Recent decisions by other regulators and the AER

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 7.16 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 7.31 to 10.43 per cent.²⁵⁷ This range covers gas and electricity decisions made by the AER since the WACC review was completed in 2009 and includes the Roma to Brisbane final decision.

The AER has also considered recent decisions by other regulators giving a rate of return range from 5.70 to 9.08 per cent (converted to nominal vanilla form).²⁵⁸ The decisions

²⁵⁷ AER, *Final Decision: APTPL access arrangement*, August 2012; AER, *Final Decision: Aurora distribution determination*, April 2012; AER, *Final Decision: Powerlink Transmission determination 2012–13 to 2016–17*, April 2012; AER *Final Decision: Victorian distribution determination*, October 2010, p. 519; AER, *Final Decision: Queensland electricity distribution network service providers: Distribution determination 2010–11 to 2014–15*, May 2010, p. 267; AER, *Final decision: N. T. Gas access arrangement proposal for the Amadeus gas pipeline 2011–2016*, 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 Arrangement*, June 2011, p. 18; Australian Competition Tribunal, *ActewAGL Gas Distribution Network: Order*, September 2010, p. 2.

²⁵⁸ ACCC, *Final report: Inquiry to make final access determinations for the declared fixed line services*, July 2011, p. 59; ESC, *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 Dampier to Bunbury Natural Gas Pipeline*, December 2011, p. 159; Queensland Competition Authority, *Draft Report: SunWater Irrigation Price Review: 2012–17*, Volume 1, November 2011,

reviewed are shown in Table B.16 and have been taken from those made in the last 12 months. The WACC of 7.16 per cent applied for SP AusNet 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 B.16 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
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
ERA	Western Power – Final decision	Sep 2012	5.70

Notes: For comparative purposes, all WACCs have been converted to the nominal vanilla WACC formulation consistent with the AER's reported figure for SP AusNet (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).

B.3.5 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

p. 392; Independent Pricing and Regulatory Tribunal (IPART), *Final Report: Review of water prices for Sydney Desalination Plant Pty Limited*, December 2011, p. 80; Essential Service Commission of South Australia (ESCOSA), *Final Advice: Advice on a Regulatory Rate of Return for SA Water*, February 2012, p. 50; IPART, *Water – Final report: Review of prices for Sydney Water Corporation's water, sewerage, drainage and other services: From 1 July 2012 to 30 June 2016*, June 2012, pp. 198, 204; IPART, *Water – Final report: Review of prices for Sydney Catchment Authority: From 1 July 2012 to 30 June 2016*, June 2012, pp. 90, 118, 123; ERA, *Final decision on proposed revisions to the access arrangement for the Western Power network submitted by Western Power*, 5 September 2012, p. 241.

previous decisions,²⁵⁹ the AER considers that the expected cost of equity should be greater than the expected cost of debt.²⁶⁰ 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 SP AusNet. 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.

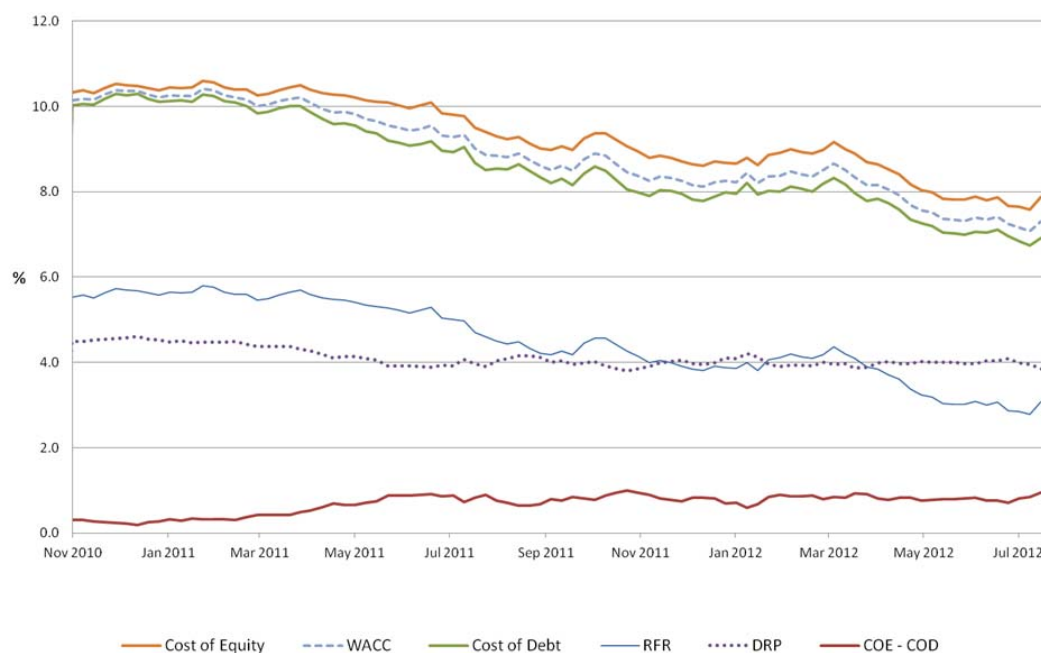
It is also worth noting that this graph clearly shows that a large portion of the change in the overall rate of return can be attributed to the decline in the cost of debt. The fact that the overall rate of return in this decision is lower than in previous decisions does not of itself make it unreasonable. The cost of debt in this decision makes up 60 per cent of the overall rate of return. The AER accepts SP AusNet's approach in determining the cost of debt. It flows from this that the AER and SP AusNet would 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.

SP AusNet'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 attachment 4.

²⁵⁹ AER, Final decision: *APTPPL access arrangement*, August 2012, p. 102; AER, *Draft decision: Envestra Ltd: Access arrangement proposal for the Qld gas network 2011–2016*, February 2011, p. 243; AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 148–149.

²⁶⁰ 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 B.9 Cost of Debt, Cost of Equity and WACC – AAA paired bonds approach



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 capital²⁶¹
- 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.²⁶²

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.²⁶³ The point is inconsequential in

²⁶¹ 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).

²⁶² 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).

current conditions, since under either interpretation the expected cost of debt is below the expected cost of equity.²⁶⁴ 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.²⁶⁵ 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.²⁶⁶

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.

B.4 The Black CAPM

In attachment 4, the AER outlined that it would consider whether the Black CAPM should be used to cross check cost of equity estimates. The AER's considerations of this are detailed below.

SP AusNet, submitted a report from NERA on the Black CAPM. It used the NERA report to cross check the cost of equity estimates derived from the Sharpe Lintner CAPM.²⁶⁷ The AER has previously outlined some of the limitations of the Black CAPM. The AER still holds the following concerns with the Black CAPM:²⁶⁸

- The Black CAPM is not a well accepted financial model
- Zero beta returns previously presented are highly variable and most likely unreliable.
- Robust parameter inputs—specifically, the return on the zero beta portfolio—are not available.

The AER has, however, examined the information put forth by SP AusNet in the NERA report.

²⁶³ See Lally, *Cost of capital for regulated utilities*, 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.

²⁶⁴ 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.

²⁶⁵ This advice is discussed in appendix B.1.1. Source document is RBA, *Letter regarding the CGS market*, July 2012.

²⁶⁶ RBA, *Letter regarding the CGS market*, July 2012, p. 1–2.

²⁶⁷ SP AusNet, *Access arrangement information*, March 2012, p. 185.

²⁶⁸ AER, Final decision Envestra Ltd Access arrangement proposal for the Qld gas network 1 July 2011 – 30 June 2016, June 2011.

B.4.1 The NERA report on the Black CAPM

The AER has assessed the NERA report to determine whether the cost of equity estimates of the report can be reliably used to cross check the DNSP's cost of equity estimate.

The AER sought advice from McKenzie and Partington to inform its assessment. The advice outlined flaws and raised significant concerns with the NERA report. Based on this advice, the AER considers that the NERA report does not provide useful information which can be relied upon to check cost of equity estimates. McKenzie and Partington outlined that:

- Unlike the yield on a government security used in the Sharpe Lintner CAPM as a proxy for the risk free rate, there is no generally accepted empirical measurement of the zero beta return in the Black CAPM.²⁶⁹ Also, the zero beta return in the Black CAPM is highly sensitive to the input variables and methods of estimation.²⁷⁰ For example, McKenzie and Partington demonstrate that the return on two efficient zero beta portfolios differ significantly—from minus 0.85 per cent to minus 50 per cent—despite only a modest (less than 1 per cent) difference in return and standard deviation.²⁷¹
- Despite some commonality in the experts supplying the estimates of excess zero beta return in the NERA report, these estimates vary and range from 6.985 percent to 10.309 percent.²⁷² The AER considers this to be a significant range in the context of its impact on the cost of equity estimate.
- NERA's preferred estimate of 10.98 percent for the zero beta return is not credible.²⁷³ McKenzie and Partington stated 'The estimated zero beta return looks more like the return to an equity security with a beta of the order of one. The excess zero beta return should be no more than the credit spread, but at 6.99 percent it is more like a high side estimate for the market risk premium.'²⁷⁴
- NERA appears to have selectively set aside estimates from the Black CAPM.²⁷⁵ McKenzie and Partington stated 'the estimate of the zero beta return is accepted in the NERA report, but the absence of a risk premium is not. This implies that the intercept term is measured reliably, but the slope coefficient is not. This is difficult to accept.'²⁷⁶

Further, the AER considers:

- The model outputs depend on the inputs, and the AER does not agree with the inputs used in the NERA report. The market risk premiums used by NERA are estimated using a regime switching model and the dividend growth model. The AER's considerations of the estimates derived from these models are in section B.2.5 and B.2.3.

The AER considers that the advice from McKenzie and Partington demonstrates that the NERA report does not provide useful information which can be relied upon in checking the cost of equity estimate.

²⁶⁹ M. McKenzie and G. Partington, *Report to the AER: Review of NERA report on the Black CAPM*, 24 August 2012, p. 7, 8, (McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012).

²⁷⁰ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 7, 8.

²⁷¹ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 10-14.

²⁷² McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 8.

²⁷³ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 22.

²⁷⁴ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 22.

²⁷⁵ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 24–25.

²⁷⁶ McKenzie and Partington, *Review of NERA report on Black CAPM*, August 2012, p. 25.

C Real cost escalation

Real cost escalation is a method for accounting for expected changes in the costs of key factor inputs. Due to market forces, these costs may not increase at the same rate as inflation.

C.1 Draft decision

The AER's draft decision is not to approve SP AusNet's proposed labour and materials cost escalators. The AER considers that applying SP AusNet's proposed escalators will not result in forecast operating expenditure (opex) and capital expenditure (capex) that is arrived at on a reasonable basis.²⁷⁷ Nor do they provide the best possible forecasts of opex and capex in the circumstances.²⁷⁸

The AER instead considers that network materials be escalated by the consumer price index (CPI) only, and that the unadjusted Labour Price Index (LPI) should be used. The AER considers that applying these escalators to forecast opex and capex would result in the best possible forecasts of opex and capex in the circumstances.²⁷⁹

The AER engaged Deloitte Access Economics (DAE) to develop forecasts of labour cost changes.²⁸⁰ The AER has determined the appropriate labour cost and materials escalators in Table C.17.

Table C.17 AER determined real cost escalators (per cent)

	2012	2013	2014	2015	2016	2017
Internal labour - specialist	1.7	1.1	1.1	1.2	0.9	1.1
Contractors	1.3	0.6	0.8	1.0	0.4	0.9
Network materials	0.0	0.0	0.0	0.0	0.0	0.0

Source: AER analysis.

C.2 SP AusNet's proposal

SP AusNet proposed real cost escalation be applied to its opex and capex forecasts for forecast labour and network materials costs. SP AusNet engaged BIS Shrapnel for advice on the labour cost escalation and SKM for advice on network materials real cost escalation, for the 2013–17 access arrangement period. It also engaged Economic Insights to advise on the appropriateness of SP AusNet's opex rate of change.

²⁷⁷ NGR, r. 74(2)(a).

²⁷⁸ NGR, r. 74(2)(b).

²⁷⁹ NGR, r. 74(2)(b).

²⁸⁰ Deloitte Access Economics, *Forecast growth in labour costs in Victoria: Report prepared for the AER*, 28 May 2012.

BIS Shrapnel recommended labour cost escalations, based on forecast changes in average weekly ordinary time earnings (AWOTE), for capex and opex (table c.18).

SKM recommended network materials cost escalations based on its input cost model (table c.18).

Table C.18 SP AusNet proposed real cost escalators (per cent)

Escalator	2012	2013	2014	2015	2016	2017
Internal—Electricity, Gas and Water AWOTE	1.5	2.6	2.8	3.1	3.0	2.9
External—Construction AWOTE	2.2	3.0	3.1	2.4	2.5	3.3
Polyethylene pipe	2.7	1.1	4.1	3.1	2.4	6.1
Steel pipe	-3.0	1.3	2.0	-0.4	-0.1	6.7
Steel Average	-6.2	2.6	3.8	-1.0	-0.4	13.0
Copper Fittings and Products	-5.0	0.7	-0.2	-1.7	-1.9	4.6
Plastic fittings and products	1.8	0.8	2.7	2.1	1.6	4.0
Meters	-1.7	0.6	0.7	-0.3	-0.2	3.0
Regulators	-1.7	0.6	0.7	-0.3	-0.2	3.0
Meter Upstands	-3.1	1.3	1.9	-0.5	-0.2	6.5

Source: SP AusNet, Access arrangement information, 30 March 2012, table 5.7.

C.3 Assessment approach

The AER assessed SP AusNet's proposed real cost escalators against the forecasts and estimates requirements in rule 74 of the NGR.²⁸¹

74 Forecasts and estimates

(1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.

(2) A forecast or estimate:

(a) must be arrived at on a reasonable basis; and

(b) must represent the best forecast or estimate possible in the circumstances.

The AER has also taken into consideration Professor Borland's report commissioned by Envestra, Economic Insights report and BIS Shrapnel's report commissioned by SP AusNet. In forming its views the AER has also considered advice from DAE on labour cost escalators.

²⁸¹ NGR, r. 74.

C.4 Reasons for draft decision: labour cost escalators

The AER's draft decision is not to approve SP AusNet's proposed labour cost escalators. The AER considers applying SP AusNet's proposed escalators will not result in forecast opex and capex that are arrived at on a reasonable basis, or provide the best possible forecasts of opex and capex in the circumstances. This is because:

- forecast movements in labour costs for the electricity, gas, water and waste services (EGWWS) industry provide the best forecast of movements in all internal labour costs possible in the circumstances rather than the property and business services (PBS) industry for general labour and the electricity gas and water (EGW) industry for network labour.
- the LPI provides a better measure of labour cost changes compared to AWOTE
- real labour cost escalation should be productivity adjusted for firm specific productivity growth rather than using the Australian Bureau of Statistics measure of productivity due to issues in measuring and forecasting productivity with this measure.

C.4.1 Use of labour force industries

The AER does not approve SP AusNet's proposed use of the EGW industry to estimate labour cost escalations. The AER does not consider that they are the best possible forecasts or estimates in the circumstances.²⁸²

The AER considers that using forecast growth in the EGWWS industry to escalate labour reflects the best forecast or estimate possible in the circumstances rather than the EGW industry²⁸³ for all internal SP AusNet labour during the 2013-2017 access arrangement period.

Since late 2009 the ABS has reported AWOTE and LPI data under the ANZSIC²⁸⁴ 2006 industry classification, where waste services have been included with the EGW industries, producing an EGWWS industry data series. This replaces the ANZSIC 1993 classification which discontinues the publication of the EGW industry data series.

BIS Shrapnel stated the inclusion of the waste services sub-sector in the classification will lead to lower wage growth outcomes for the combined EGWWS industry, which will no longer accurately reflect the occupations in the EGW industry. Consequently BIS Shrapnel estimated the waste services component and excluded it from both its historical data and forecasts, thus deriving an EGW estimate.²⁸⁵

SP AusNet's proposed labour cost escalation rates are based on BIS Shrapnel forecasts for the EGW industry rather than the EGWWS industry used by the ABS.

²⁸² NGR, r. 74(2)(b).

²⁸³ NGR, r. 74(2)(b).

²⁸⁴ The Australian and New Zealand Standard Industrial Classification (ANZSIC) provides a framework for organising data about businesses - by enabling grouping of business units carrying out similar productive activities.

²⁸⁵ BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. A-5.

BIS Shrapnel note that between 1998 and 2009 the LPI for the EGW industry grew by 4.3 per cent per annum as compared to 4.2 per cent for the EGWWS industry.²⁸⁶

The AER does not consider that BIS Shrapnel's reasons for excluding the waste service component (that it would result in a lower wage growth) are sufficient to adjust the EGWWS data. In the absence of any compelling evidence of a difference between the EGW and EGWWS industries, the AER considers it is not necessary to remove the forecast waste services component from EGWWS data. The AER considers removing the waste services component from the data introduces a potential source of forecasting error since it is necessary to estimate the waste services components. Further, there is likely to be forecasting error from applying the discontinued EGW industry data series which concluded in June 2009 when the ABS moved to the ANZSIC 2006 classification. This forecasting error will be magnified overtime as the period between the last available EGW data (2009) and the forecast period increases.

For these reasons, the AER considers that using BIS Shrapnel's data in relation to the EGW industry to escalate labour costs would not result in the best labour cost forecast or estimate possible in the circumstances.²⁸⁷

DAE has estimated labour costs using the ANZSIC 2006 classification for the EGWWS labour force industry to represent SP AusNet's internal labour force. The AER is of the view that applying forecasts based on the EGWWS industry rather than the EGW industry will result in the best forecast or estimate possible in the circumstances.

C.4.2 The choice of labour price measure and use of productivity adjustments

The AER does not approve SP AusNet's proposed use of forecast AWOTE growth rates for the entire regulatory period. The AER does not consider that it permits a forecast to be made on a reasonable basis, and is the best possible forecast in the circumstances.²⁸⁸ The AER considers LPI forecasts, adjusted for firm specific productivity effects, permits the best possible forecast of labour cost movements in the circumstances because.²⁸⁹

- productivity measures for the EGWWS industry exhibit estimation bias for the reasons outlined in recent Productivity Commission (PC) analysis²⁹⁰
- a firm specific productivity measure does not exhibit the same estimation bias
- although productivity adjusted labour price movements provide the best estimate of labour cost movements, estimated productivity adjustments cannot be relied on due to the estimation bias in productivity measures
- the LPI contains less productivity effects than the AWOTE, where the AWOTE includes all productivity effects;

²⁸⁶ BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. A-5.

²⁸⁷ NGR, r. 74(2)(b).

²⁸⁸ NGR, r. 74(2).

²⁸⁹ NGR, r. 74(2)(b).

²⁹⁰ Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012.

- although the AER considers that LPI forecasts, unadjusted for productivity effects, provide the best possible forecast of labour cost movements, the AER recognises that this will over compensate businesses to the extent that worker productivity gains over the forecast period are positive.

Each of these issues is considered in the sections below.

Labour productivity adjustments

Labour price changes are driven by both productivity effects and other effects. Productivity effects drive labour price changes since more productive labour receives higher wages.²⁹¹ Other effects include CPI increases and any price changes driven by labour market supply/demand imbalances.

It is important to make the distinction between labour prices and labour costs. DAE stated:

... labour costs will rise at a different rate [than labour prices] due to the effects of labour productivity growth. Effectively, labour productivity measures the number of units of output an individual employee can produce in a given time period. The more units of output each worker can produce, the fewer workers are required to create a given level of industry output. If productivity is rising, the total cost of labour (the price of each employee multiplied by the number of employees) will rise less rapidly than the individual employee's price.²⁹²

Broadly labour price changes can be described by three effects:

1. Composition productivity effects reflect increases in workforce productivity due to changes in the skill composition of the workforce. For example, an increase share of high skill workers will increase average workforce productivity and average wage rates per worker. However, because average workforce productivity has increased fewer workers are required to produce the same amount of output and any increase in labour costs will be less than the increase in the average labour price.
2. Worker productivity effects are increases in workforce productivity due to increases in the productivity of individual workers. For example, workers may become more productive from working with better capital equipment. Again, because average workforce productivity has increased fewer workers are required and any increase in labour costs will be less than the increase in the average labour price.
3. Other effects unrelated to productivity. For example, wage increases due to inflation or labour supply or demand imbalances. Because these effects are unrelated to productivity the same amount of labour is required to produce a given amount of output and the change in labour price results in a corresponding change in labour costs.

Conceptually at least, either the AWOTE or LPI labour price measures can quantify the change in labour costs. However, it is important to use matching labour price and productivity measures.²⁹³ The ABS publishes a number of productivity measures, including labour, capital and multifactor measures. The labour productivity measures are published annually for the market sector as a whole, as well as at the industry division level (for example, the electricity, gas and water industry). These measures indicate value added per hour worked. This

²⁹¹ Professor Jeff Borland, *Labour cost escalation report for Envestra Limited*, 2011, p. 2.

²⁹² Deloitte Access Economics, *Forecast growth in labour costs: Queensland and Tasmania*, 15 August 2011, p. 102.

²⁹³ Deloitte Access Economics, *Response to Professor Borland: comments prepared for the AER*, 15 April 2011, p. 3.

conventional measure of labour productivity includes all productivity effects: composition productivity, worker productivity effects and other effects and as AWOTE includes all of these effects; it is the appropriate labour productivity measure for adjusting AWOTE.

A quality adjusted measure of labour productivity which includes worker productivity effects and other effects is the appropriate measure to adjust the LPI. The ABS recently developed quality adjusted measures of labour input and labour productivity. It released estimates for 1982-83 to 1999-2000 in 2005, and has since published yearly statistics from 1994-95.²⁹⁴ This measure of labour captures the change in the aggregate quality of labour due to compositional changes such as higher education, or longer work experience, so the effect is not ascribed to productivity. Generally, the quality adjusted labour productivity index increases at a slower rate than the conventional labour productivity index, because the conventional index includes compositional productivity effects that may reflect increased skill composition of the workforce. An increase in the skill composition of the workforce which may manifest itself in an increase in the labour price does not necessarily suggest a simultaneous increase in the labour cost. This is because an increase in the skill level may mean fewer workers such that labour costs may fall.

The AER considers that SP AusNet should not be compensated for labour price changes driven by labour productivity effects. This is because labour price changes do not equate to labour cost changes. To the extent labour prices compensate workers for increased productivity, those price increases do not increase labour costs, since fewer workers are required to produce the same output. Therefore the AER considers in theory productivity adjustments applied to real cost escalations is reasonable and represents the best forecast or estimate possible in the circumstances.²⁹⁵

Further, the AER has previously stated that to the extent that labour prices are rising due to increased labour productivity (due to either compositional productivity or worker productivity), the increase in labour costs will be less than the increase in the labour price.²⁹⁶ To determine the impact of labour price increases on the total labour cost to produce a constant level of output, the price impacts of labour productivity effects should be removed from the labour price measure used.²⁹⁷ However, the PC has noted four broad issues which impact measurement of marginal factor productivity (MFP) growth in EGW industries:

4. cyclical investment—the lumpy nature of capital in relation to measured output²⁹⁸
5. output measurement—difficulty in measuring output which can lead to unanticipated changes in MFP²⁹⁹
6. shifts to higher cost technologies—investments as a result of climate-related issues increasing the cost per unit of output³⁰⁰

²⁹⁴ ABS, *Quality-adjusted labour inputs*, Research paper, Catalogue number 1351.0.55.010, November 2005.

²⁹⁵ NGR, r. 74(2).

²⁹⁶ See: AER, *Draft Decision: Powerlink Transmission determination 2012–13 to 2016–17, November 2011*, p. 57.

²⁹⁷ AER, *Draft Decision: Powerlink Transmission determination 2012–13 to 2016–17, November 2011*, p. 56.

²⁹⁸ Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, p. 122.

²⁹⁹ Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, p. 126.

7. unmeasured quality improvements—changes in government regulations mandating improvements in the network that are not directly measured, such as mandatory underground electricity cabling.³⁰¹

The AER considers that the estimation issues identified by the PC contribute to the uncertainty in forecasting productivity adjustments.

Productivity adjustments may also double-count other effects such as scale adjustments. Further, accurately forecasting labour productivity in the medium to long terms is extremely difficult, leading to high risk of forecasting error.³⁰²

SP AusNet has not applied a productivity adjustment to their proposed AWOTE estimates by BIS Shrapnel. SP AusNet has applied an overall partial factor productivity adjustment to their total opex forecast estimated by Economic Insights.³⁰³ SP AusNet's capex real labour cost escalation forecast does not have a partial factor productivity adjustment.

Envestra sought advice from Professor Jeff Borland on whether the AWOTE or the LPI should be used for the purposes of real labour cost escalation for the 2013-2017 access arrangement period.

Professor Borland considers the productivity adjusted LPI underestimates changes to labour costs by an amount equal to the change in the skill composition of the workforce.³⁰⁴ The AER agrees with Professor Borland if the standard labour productivity measure is used to adjust the LPI.

DAE's productivity adjusted LPI forecasts implicitly assume the labour quality adjustment is zero. If the quality adjustment is different from zero, this result would be deducted from both LPI growth and productivity growth resulting in a net effect of zero.³⁰⁵

Professor Borland stated that the productivity adjusted LPI underestimates changes to labour costs by an amount equal to the change in the skill composition of the workforce.³⁰⁶ The AER agrees with this view if the conventional labour productivity measure is used to adjust the LPI.

In response to Professor Borland, DAE stated their forecasts of LPI and productivity implicitly assumes a zero value for composition productivity. If the compositional productivity

³⁰⁰ Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, pp. 128–129.

³⁰¹ Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, pp. 129–130.

³⁰² AER, *Draft decision - Access arrangement proposal for the Roma to Brisbane Pipeline 2012–13 to 2016–17*, April 2012, p. 200

³⁰³ SP AusNet, *Access arrangement information*, 30 March 2012, p. 148.

³⁰⁴ Professor Jeff Borland, *Labour cost escalation: Choosing between AWOTE and LPI - Report for Envestra Limited*, March 2012, p. 6.

³⁰⁵ Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 7.

³⁰⁶ Professor Jeff Borland, *Labour cost escalation: Choosing between AWOTE and LPI - Report for Envestra Limited*, March 2012, p. 6.

adjustment is different from zero, this result would be deducted from both LPI growth and productivity growth resulting in a net effect of zero.³⁰⁷

Professor Borland further notes in his empirical analysis that over the long run changes in labour costs is equal to changes in other productivity effects such as CPI.³⁰⁸

The AER considers that in theory productivity adjustments should be applied to real cost escalations if productivity adjustments are not undertaken elsewhere in opex and capex forecasts.

However, the AER notes the high degree of difficulty in estimating both quality adjusted labour productivity and conventional labour productivity as evidenced by the conflicting productivity estimates from BIS Shrapnel and DAE and the analysis conducted by the PC. Thus, while the AER expects worker productivity to improve over the long run, due to estimation difficulties, it has not sought to address this effect, at this stage, in SP AusNet's forecasts of capex labour costs.

Relationship between partial factor productivity and labour productivity

The AER considers the use of a partial factor productivity adjust is the best estimate possible in the circumstances if the effects of labour productivity changes has been removed from the partial factor productivity adjustment.

SP AusNet has commissioned Economic Insights to estimate productivity growth in gas networks. Economic Insights has estimated productivity growth for SP AusNet averaging 0.8 per cent per annum for the 2013–17 access arrangement period.³⁰⁹

Economic Insights has estimated the total cost function and operating cost function parameters for 9 Australian gas distribution businesses (GDB) and 2 New Zealand GDBs.

The AER considers the partial factor productivity analysis conducted by Economic Insights does not suffer from the estimation issues described by the PC. Economic Insights has used firm specific variables such as customer density and energy density.³¹⁰

The AER notes the labour index applied in the productivity analysis is the ABS LPI.³¹¹ As discussed in section C.4.2 the AER considers the unadjusted LPI estimated by Deloitte Access Economics is appropriate, which does not include the effect of compositional productivity.

The AER considers any labour productivity included in Economic Insights' partial factor productivity adjustment would not include any adjustments for compositional productivity. The use of the LPI with an overall productivity adjustment to opex is consistent with the AER's

³⁰⁷ Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 7.

³⁰⁸ Professor Jeff Borland, *Labour cost escalation: Choosing between AWOTE and LPI - Report for Envestra Limited*, March 2012, p. 6.

³⁰⁹ SP AusNet, *Access arrangement information*, 30 March 2012, p. 148.

³¹⁰ Economic Insights, *Appendix 6B: Econometric Estimates of the Victorian Gas Distribution Businesses' Efficiency and Future Productivity Growth*, 30 March 2012, p. 9.

³¹¹ Economic Insights, *Economic Insights Memo on AER info Request 21*, 13 July 2012, p. 1.

conceptual approach of applying a labour cost measure adjusted for a matching labour productivity measure.

Choice of labour price measure

While the AER considers unbiased productivity adjustments should be applied, given the difficulty in measuring and forecasting labour productivity movements, the AER considers that productivity adjustments should not be applied to SP AusNet's capex related labour cost escalations. The AER notes that currently unadjusted labour forecasts of the AWOTE and LPI are above inflation. Thus, this approach will allow SP AusNet to benefit from changes in capex related labour productivity effects. Although this figure is upwardly biased by including labour productivity improvements, due to difficulties in estimating an unbiased productivity adjusted value, the AER considers an unadjusted LPI is the best forecast in the circumstances.³¹²

SP AusNet proposed the use of forecast movements in productivity unadjusted AWOTE, provided by BIS Shrapnel, to escalate its labour costs for anticipated real labour price increases.

However, for consistency with the productivity adjustments applied by Economic Insights the AER considers the use of the unadjusted LPI to be the best forecast possible in the circumstances.³¹³

AWOTE measures average employee earnings from working the standard number of hours per week. It is not strictly a price index (that measures the pure price effect) because the composition of labour is not held constant. It captures composition productivity effects, worker productivity effects and other effects. In contrast the LPI is a Laspeyres type price index. As a Laspeyres type price index the LPI measures the change in labour costs with the quantity and quality of work performed held constant.³¹⁴ It measures the pure price effect, showing how much the same quantity of labour costs in the current period, relative to the base period. The weights used are for the base period and are updated annually to represent job distribution.³¹⁵

Conceptually at least, either labour price measure can quantify the change in labour costs, provided a correctly matched productivity measure is used.³¹⁶

BIS Shrapnel considers the LPI measures underlying wage inflation but does not measure variations in the quality or quantity of work performed. The AWOTE measures both the change in the cost of labour and skill level changes within an industry. For this reason BIS Shrapnel prefers the use of AWOTE over the LPI.³¹⁷

DAE noted that there are drawbacks to both the LPI and AWOTE measures. However it considered LPI to be a better measure than AWOTE because compositional changes such as

³¹² NGR, r. 74(2)(b).

³¹³ NGR, r. 74(2)(b).

³¹⁴ To the extent that some quality changes in the work performed are unquantifiable, the price change would incorporate some of the quality change effect. However, the magnitude of this effect is generally negligible.

³¹⁵ ABS, *Labour Price Index: concepts, sources and methods*, Catalogue number 6351.0.55.001, 2004, p. 12.

³¹⁶ Deloitte Access Economics, *Response to Professor Borland: comments prepared for the AER*, 15 April 2011, p. 3.

³¹⁷ BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. 25.

the pace of recruitment and retirement and the changed relativities in the employment of men and women can distort AWOTE as a proxy for changes in the price of labour.³¹⁸

DAE further notes the advantages of the LPI over the AWOTE as a measure of labour price changes will increase as the ABS commences publishing the AWOTE on a six monthly basis and ceases publishing all AWOTE by state by industry information.³¹⁹

However, the AER notes that using the LPI has its own difficulties because of the limited availability of quality adjusted labour productivity index data. The ABS publishes unadjusted labour productivity for the EGWWS industry but its quality adjusted labour productivity index is available only at the overall market sector level.

The ABS also considers the LPI to be their preferred indicator of changes in the price of labour because average weekly earnings (AWE) estimates are affected by changes in both the price of labour and changes in the composition of the labour market.³²⁰

The AER considers the problems with using AWOTE are greater than those with using the LPI. This is because the higher volatility of the AWOTE and the inclusion of the composition productivity effects makes AWOTE unreliable for forecasting labour costs for the utilities industry in comparison with the more stable LPI time series (see Figure C.1).

The LPI unadjusted for labour productivity, which includes worker productivity effects, will more closely represent the true change in labour costs than the unadjusted AWOTE which includes both worker and composition productivity effects.

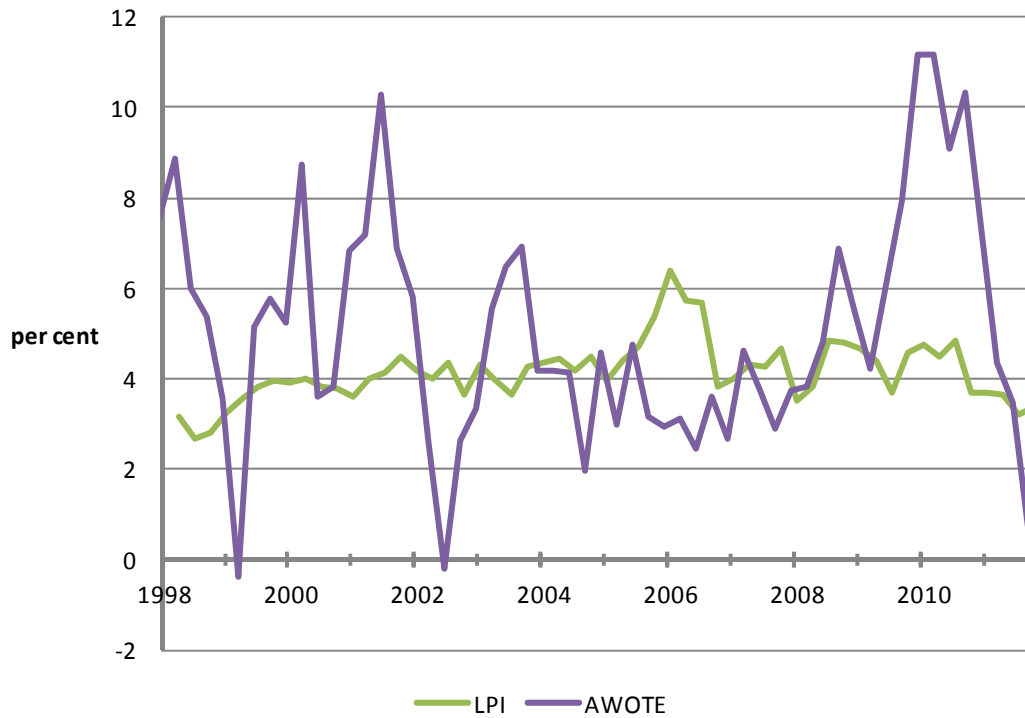
The AER considers that any labour cost increases associated with compositional change should be offset by productivity benefits. To estimate the efficient labour cost, it is appropriate to hold the labour force composition stable over the forecast period and allow SP AusNet to retain any efficiency benefits of workforce compositional change.

³¹⁸ Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 2.

³¹⁹ Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 2.

³²⁰ ABS, *Labour Price Index: concepts, sources and methods*, Catalogue number 6351.0.55.001, 2004, p. 43.

Figure C.1 Annual growth in LPI and AWOTE, EGWWS industry, Australia (per cent)



Source: ABS, catalogue 6302.0, table H; ABS, catalogue 6345.0, table 9b; AER analysis.

The AER notes that the inclusion of labour productivity effects will provide an upwardly biased forecast of labour cost movements if SP AusNet has positive capex related labour productivity over the forecast period.

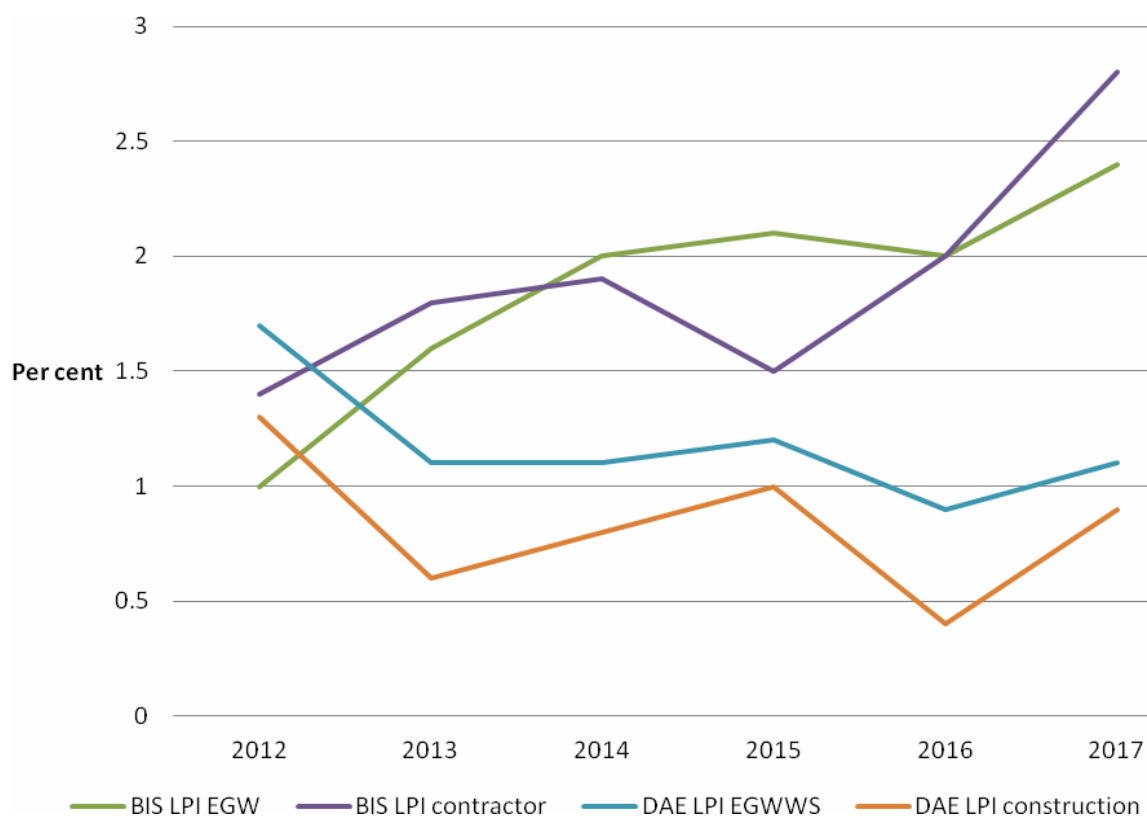
Choice of LPI forecasts

BIS Shrapnel estimated SP AusNet's forecast movements in both the LPI and AWOTE. DAE analysis has shown BIS Shrapnel's forecasts of LPI have consistently been higher than the actual LPI and DAEs forecasts have been too low.³²¹ BIS Shrapnel's LPI forecasts, unadjusted for productivity, are higher than those forecast by DAE, consistent with this analysis (figure c.2)

The AER considers the difference between DAEs forecast LPI and actual LPI is less than the magnitude of DAEs forecast of quality adjusted labour productivity. Should DAE's forecast LPI be lower than actual LPI in the 2013–17 access arrangement period, future worker productivity improvements for that period are likely to outweigh any potential difference between forecast and actual LPI. Therefore the AER considers the LPI estimated by DAE represents the best forecast possible in the circumstances.³²²

³²¹ Deloitte Access Economics, *Responses to issues raised in various submissions to the Victorian Gas Access Review*, 29 May 2012, p. 25.
³²² NGR, r. 74(2)(b).

Figure C.2 Real LPI forecasts (per cent)



Source: BIS Shrapnel, *Real Cost Escalation Forecasts to 2017—Victoria and NSW*, November 2011; Deloitte Access Economics, *Forecast growth in labour costs in Victoria*, 28 May 2012.

The AER undertook its own analysis and compared both BIS Shrapnel's and DAEs forecasts of LPI movements for the Australian economy (table c.19). For the forecast series commencing 2006 to 2011 included in the analysis, the average of DAEs and BIS Shrapnel's forecasts had the lowest mean absolute error on three occasions, DAEs forecasts on two and BIS Shrapnel's once. This result is consistent with a significant body of literature concluding forecast accuracy can be improved by combining multiple individual forecasts.³²³ It is also consistent with DAEs finding that its forecasts were too pessimistic but BIS Shrapnel's were too optimistic. The AER did not have the necessary data to undertake the same analysis for Victoria.

³²³ Robert T. Clemen, 'Combining forecasts: A review and annotated bibliography', *International Journal of Forecasting*, volume 5, issue 4, 1989, pp. 559–583.

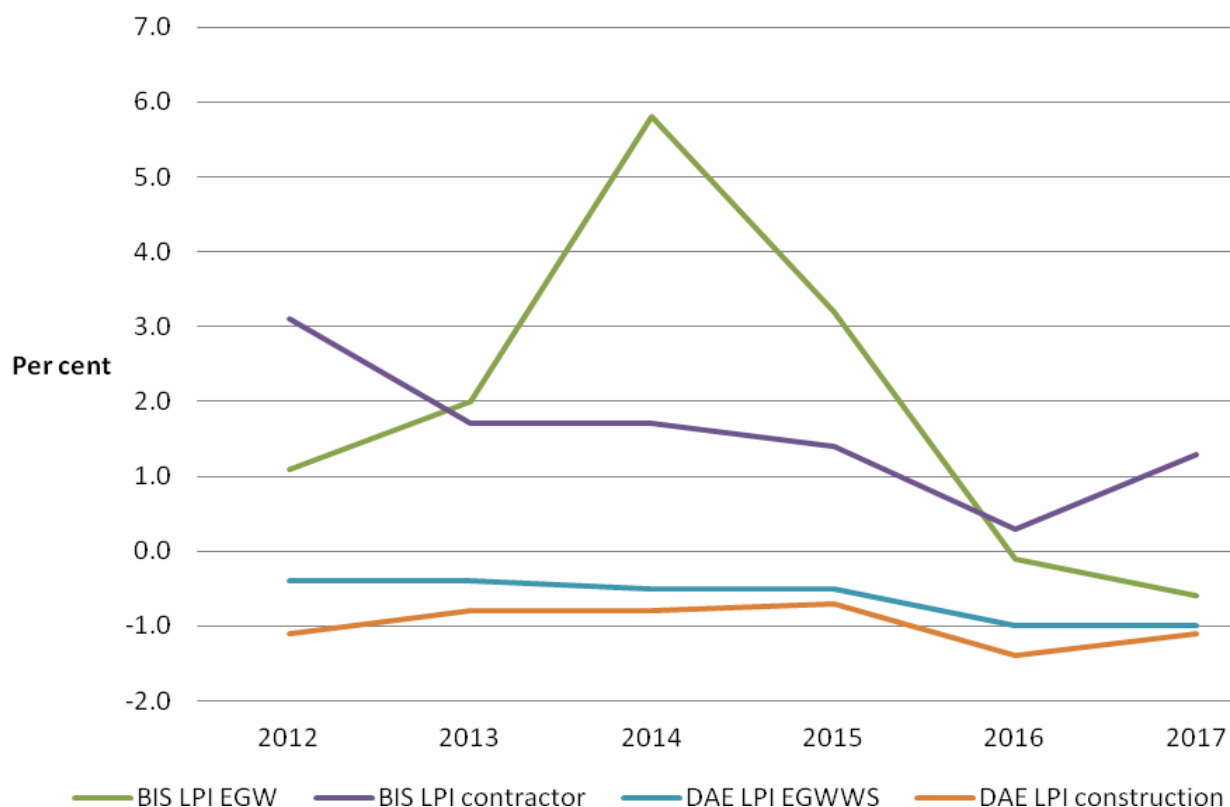
Table C.19 Comparison of past LPI forecast

Forecast	2006-07	2007-08	2008-09	2009-10	2010-11	Mean absolute error
Utilities						
Actual (ABS data)	5.0	4.1	4.5	4.3	4.2	
BIS Shrapnel (March 2007)	5.8	5.8	5.2	4.5	4.7	0.78
DAE (April 2007)	5.6	5.7	5.1	3.6	3.9	0.76
BIS Shrapnel (April 2009)			4.8	4.7	4.4	0.30
DAE (September 2009)			4.5	3.5	3.4	0.53
BIS Shrapnel (December 2009)				4.3	4.2	0.00
DAE (March 2010)				4.0	3.9	0.30
All industries						
Actual (ABS data)	3.9	4.1	4.1	3.1	3.8	
BIS Shrapnel (March 2007)	4.2	4.5	3.8	3.7	4.2	0.40
DAE (April 2007)	4.1	4.6	4.4	4.0	4.3	0.48
BIS Shrapnel (April 2009)			4.1	3.3	3.1	0.30
DAE (September 2009)			4.1	3.5	3.9	0.17
BIS Shrapnel (December 2009)				3.1	3.3	0.25
DAE (March 2010)				3.2	3.7	0.10

Source: AER analysis; BIS Shrapnel, *Labour cost escalation forecasts to 2016–17—Australia and Queensland*, January 2012, table 6.1.

The AER notes BIS Shrapnel's forecast real productivity adjusted LPI exhibits a high level of volatility. The AER considers BIS Shrapnel's labour productivity adjusted forecasts will overstate labour cost movements. These forecasts exhibit a strong increase in 2014 which is driven by BIS Shrapnel's forecast steep decline in labour productivity (figure c.3). Given the issues raised by the Productivity Commission regarding measured productivity in the EGWWS industry the AER is not satisfied BIS Shrapnel's forecast real productivity adjusted LPI will accurately reflect SP AusNet's capex labour costs in the 2013–17 access arrangement period.

Figure C.3 Real productivity adjusted LPI forecasts (per cent)



Source: BIS Shrapnel, *Real Cost Escalation Forecasts to 2017—Victoria and NSW*, November 2011; Deloitte Access Economics, *Forecast growth in labour costs in Victoria*, 28 May 2012.

C.5 Reasons for draft decision: materials cost escalators

The AER does not approve SP AusNet's proposed materials real cost escalators, because it considers the network materials real price increases forecast by SP AusNet were not arrived at on a reasonable basis and do not represent the best forecasts possible in the circumstances.³²⁴ SP AusNet proposed to escalate its network materials costs using forecasts prepared for it by Sinclair Knight Merz (SKM). The AER considers that SKM did not:

- demonstrate that network materials costs are increasing faster than inflation
- demonstrate an empirical relationship between commodity prices and final product prices paid by SP AusNet
- use reasonable foreign exchange rate forecasts, for the purpose of converting commodity prices from US dollars to Australian dollars
- use reasonable oil and polyethylene (PE) forecasts.

Therefore, the AER considers that SP AusNet's proposed materials real cost escalators were not arrived at on a reasonable basis and do not represent the best forecast or estimate

³²⁴ NGR, r. 74(2).

possible in the circumstances.³²⁵ The AER considers SP AusNet's proposed materials real cost escalators were not arrived at on a reasonable basis because SP AusNet did not provide quantifiable evidence to demonstrate PE pipeline costs will escalate in real terms. The AER also considers SP AusNet's proposed materials real cost escalators do not represent the best forecast or estimate possible in the circumstances, because expected inflation produces superior forecasts to input cost models.

In its decisions for Country Energy, ActewAGL, Jemena, Envestra South Australia, and the Envestra Queensland gas networks, the AER did not accept forecast network materials real cost escalation.³²⁶ In all of these cases, the AER concluded that network materials should be escalated annually by CPI only.

The following sections discuss these issues in greater detail.

C.5.1 Empirical data on network materials costs

The AER considers SKM's forecasts for network materials price increases were not arrived at on a reasonable basis and do not represent the best forecast or estimate possible in the circumstances. It is not reasonable to forecast real price increases when there is no empirical evidence that network materials prices are increasing faster than CPI. The available evidence suggests the recent trend for network materials prices is negative. SP AusNet provided no contrary empirical evidence.

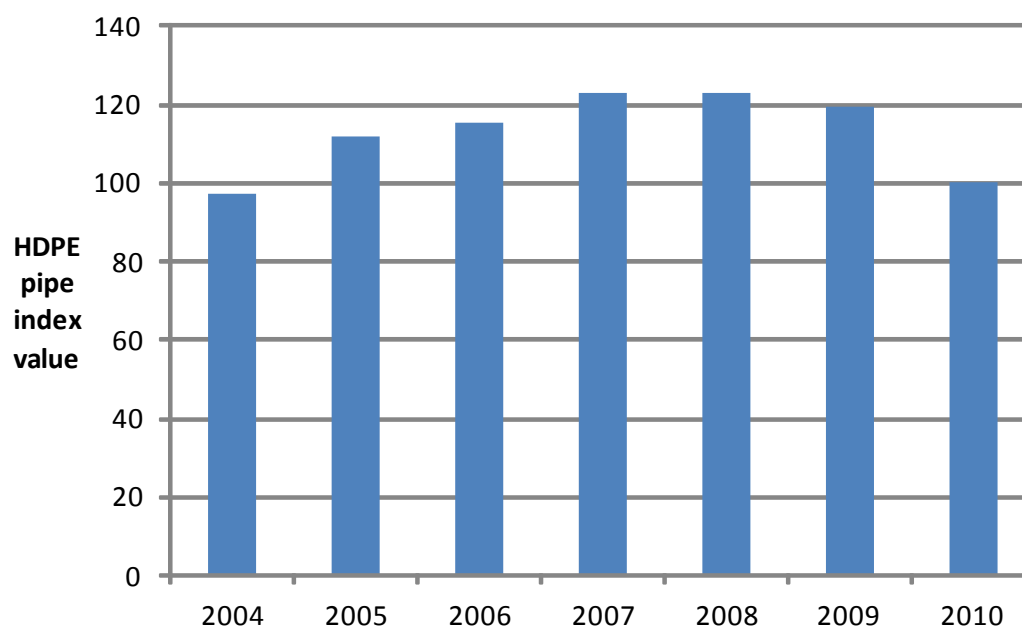
Envestra provided PE price data in its submission to the 2012–16 Access arrangements for its Queensland and South Australian gas distribution networks. These prices represent the nominal weighted average price for four pipe categories used by Envestra for the years 2004 to 2010.³²⁷ When adjusted for inflation real polyethylene (PE) pipe prices in 2010 were similar to those in 2004 (figure c.4).

³²⁵ NGR, r. 74(2).

³²⁶ AER, *JGN final decision*, June 2010, p. 85; and AER, *Country Energy draft decision*, November 2009, p.28; and, AER, *ActewAGL final decision*, March 2010, p. 26; and AER, *Envestra Ltd: Access arrangement proposal for the Qld gas network*, final decision, June 2011, p. 217; and AER, *Envestra Ltd: Access arrangement proposal for the SA gas network*, final decision, June 2011, p. 230.

³²⁷ BIS Shrapnel, *Real Cost Escalation Forecasts to 2015/16*, March 2011, p. 59.

Figure C.4 Index of real PE pipe prices faced by Envestra 2004–10 (2010 base year)



Source: BIS Shrapnel.³²⁸

Manufacturing output producer price indexes from the ABS provide further evidence network materials costs are not increasing in real terms. Manufacturing output producer price indexes, although not direct measures of network materials cost escalation, provide some indication of the changes in the price level for similar products (table c.20).

Table C.20 Total real change in network materials related prices 2009–12

Index	Total real change March 2009–12	Network materials included in index
Rigid and semi-rigid polymer product manufacturing	–6.2 per cent	Plastic fittings and pipes
Steel pipe and tube manufacturing	–44.4 per cent	Steel pipes
Other fabricated metal product manufacturing n.e.c.	–9.4 per cent	Copper fittings
Other professional and scientific equipment manufacturing	–34.4 per cent	Gas meters
Iron and steel smelting	–41.4 per cent	Steel average

Source: ABS.³²⁹

³²⁸ BIS Shrapnel, *Real Cost Escalation Forecasts to 2015/16*, March 2011, p. 59.

³²⁹ ABS, Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006; catalogue number 1292.0; Producer Price Indexes, Australia, March 2012, catalogue number 6427.0, and Consumer Price Index, Australia, Mar 2012, catalogue number 6401.0.

C.5.2 Network materials cost escalation forecast methodology

The AER considers SKM's forecast methodology for network materials does not produce forecasts arrived at on a reasonable basis and does not represent the best forecast or estimate possible in the circumstances.³³⁰ The methodology is upwardly biased because it uses materials that it forecasts to increase in real cost as a proxy for all materials. The empirical data available also indicates that CPI based forecasts perform better than the type of methodology utilised by SP AusNet.

Any estimate that uses real cost escalation for only one, or some, materials as a proxy for the entire basket of network materials cost escalation, is not arrived at on a reasonable basis and does not represent the best forecast or estimate possible in the circumstances.³³¹ This is because while the real cost of some items will increase, others will decrease. Adjusting only for real cost increases, and not decreases, produces upwardly biased cost forecasts. In order to establish that compensation for network materials real cost escalation is necessary, there must be evidence the entire basket of network costs has been increasing by more than CPI. Consequently, even if there is evidence the price of some materials will increase more than CPI this does not necessitate that SP AusNet's network materials costs will increase by more than CPI.

SP AusNet proposed the cost of network materials be escalated for forecast real cost increase in the price of network materials as forecast by SKM. SKM used an input cost model to forecast the change in networks materials prices.³³² An input cost model uses the cost of inputs, and the proportions in which they are used, to predict the price of an end product. There is no evidence that the weights assumed in SKM's input cost model produce accurate forecasts of network materials prices. An increase in the price of an input does not necessarily mean the price of related outputs will increase. There may be many causal factors that drive output prices. For example, producers may substitute to cheaper inputs or may not increase prices because customers will substitute to cheaper alternative products.

Past performance of input cost models, relative to CPI based forecasts, in predicting the cost of PE pipes has been poor. Envestra claimed real cost escalation, based on expected increases in oil prices, for PE pipes for its South Australian network's 2007-11 access arrangement.³³³ The forecast price for PE pipes at the end of the period was more than 40 per cent higher than the realised prices provided by Envestra in support of its 2011–16 access arrangements for its Queensland and South Australia networks.³³⁴ At the end of the same period PE pipe prices forecast based on CPI expectations were 4.7 per cent below realised pipe prices. Furthermore the mean squared prediction error (MSPE) was lower for the CPI based forecast than for Envestra's input cost model. This supports the argument that CPI produces more accurate PE pipe forecasts than input cost models. Therefore, the AER considers that SKM's materials real cost escalators were not arrived at on a reasonable basis and do not represent the best forecast or estimate possible in the circumstances.³³⁵

³³⁰ NGR, r. 74(2).

³³¹ NGR, r. 74(2).

³³² SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 1.

³³³ Envestra Ltd, Response to ESCOSA Draft Decision, Part A, 5 May 2006, pp. 25–26.

³³⁴ BIS Shrapnel, *Real Cost Escalation Forecasts to 2015/16*, March 2011, p. 59.

³³⁵ NGR, r. 74(2).

C.5.3 Foreign exchange

The AER considers SKM's foreign exchange rate forecasts were not arrived at on a reasonable basis and do not represent the best forecast or estimate possible in the circumstances.³³⁶ The AER considers exchange rate forecasts based on forward markets are the most realistic expectation of exchange rates during the 2013–17 access arrangement period. Therefore the AER considers exchange rate forecasts based on forward markets are arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.³³⁷

SKM converted US dollar denominated input prices to Australian dollars using the forecasts from the AER's draft decision for Aurora Energy released in November 2011 for the years 2013–16. For 2017 SKM forecast the exchange rate by extrapolating to the long term average exchange rate. It is unclear which period SKM used to determine the long term average.³³⁸ SKM's foreign exchange rate forecasts were not arrived at on a reasonable basis and do not represent the best forecast or estimate possible in the circumstances³³⁹ because:

- they are not based on the most recently available data
- futures markets show no expectation the exchange rate will revert to its mean after the last AER forecast
- the rates have not been forecast at the same time as SKMs commodity price forecasts.

To the extent possible, materials costs forecasts and exchange rate forecasts should be derived at the same time because of the relationship between the two. Demand for the Australian dollar is related to demand for commodities. For example, if exchange rate forecasts were updated, but not the US dollar materials costs forecasts (because long term forecasts had not been updated, for example), then the Australian dollar materials cost forecasts would be biased. If the Australian dollar were to drop after the materials cost forecasts, then the materials cost forecasts would be upwardly biased since commodity prices are also likely to have dropped. Similarly, if the Australian dollar were to rise after the materials cost forecasts, then the materials cost forecasts would be downwardly biased.

C.5.4 Commodity price forecasts

The AER considers SKM's price forecasts for aluminium, copper, and steel were arrived at on a reasonable basis and represent the best forecast possible in the circumstances.³⁴⁰ SKM used futures prices and, where futures were unavailable, Consensus Economics estimates to produce forecasts for aluminium, steel, and copper prices. The AER has accepted this method of forecasting in past electricity network decisions.³⁴¹

³³⁶ NGR, r. 74(2).

³³⁷ NGR, r. 74(2).

³³⁸ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–17*, 28th March 2012, p. 13.

³³⁹ NGR, r. 74(2).

³⁴⁰ NGR, r. 74(2).

³⁴¹ ACCC, *Final decision. Powerlink Transmission determination 2012–13 to 2016–17*, April 2012, p. 50.

However, the AER considers that SKM's price forecasts for oil and PE pipe were not arrived at on a reasonable basis and do not represent the best forecasts or estimates possible in the circumstances.³⁴²

Oil

Generally the AER has considered prices in futures markets provide a reasonable basis to forecast commodity prices. Oil futures are available for the entire 2013–2017 access arrangement period. Despite doing so previously, SKM did not use futures prices to forecast oil prices.^{343,344} SKM noted a discussion paper from the US Federal Reserve found:

More commonly used methods of forecasting the nominal price of oil based on the price of oil futures or the spread of the oil futures price relative to the spot price cannot be recommended. There is no reliable evidence that oil futures prices significantly lower the MSPE relative to the no-change forecast at short horizons, and long-term futures prices often cited by policymakers are distinctly less accurate than the no-change forecast.³⁴⁵

The no-change forecast is a forecast that predicts future prices will be the same as the current price. Consequently, SKM considered futures markets to be a poor predictor of oil price movements.³⁴⁶ SKM then tested actual oil prices against historical predictions from three sources:³⁴⁷

- New York Mercantile Exchange (NYMEX) futures contracts
- US Energy Information Administration's (EIA) Annual Energy Outlook
- Consensus Economics' Energy and Metals Consensus Forecasts

Based on this analysis SKM used a combination of futures prices and expert economic forecasts to forecast oil prices.³⁴⁸

However, SKM did not include forecasts based on assuming no nominal change in price in its analysis, despite the discussion paper stating them to be a more accurate forecast of oil price movements.³⁴⁹ Consensus Economics and EIA forecasts were both included in the discussion paper's data set and it was found that, for horizons beyond several years, the nominal price of oil adjusted for expected inflation is the best forecast of nominal oil prices.³⁵⁰

³⁴² NGR, r. 74(2).

³⁴³ SKM, *Aurora Energy Annual Material Cost Escalation 2013–17: Supplementary Update*, 15th April 2011, p. 3.

³⁴⁴ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 22.

³⁴⁵ Alquist, R., Kilian, L. And Vigfusson, J., *Forecasting the Price of Oil*, Board of Governors of the Federal Reserve System, International Finance Discussion Papers, Number 1022, July 2011, p. 69.

³⁴⁶ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 19.

³⁴⁷ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, pp. 21–22.

³⁴⁸ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 68.

³⁴⁹ Alquist, R., Kilian, L. And Vigfusson, J., *Forecasting the Price of Oil*, Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 1022, July 2011, p. 2.

³⁵⁰ Alquist, R., Kilian, L. And Vigfusson, J., *Forecasting the Price of Oil*, Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 1022, July 2011, p. 25, p. 64.

It is also noted in the paper that:

This result is consistent with common views among oil experts. For example, Peter Davies, chief economist of British Petroleum, has noted that “we cannot forecast oil prices with any degree of accuracy over any period whether short or long”³⁵¹

The AER is not satisfied the proposed oil price forecasts are arrived at on a reasonable basis or represent the best forecast possible in the circumstances.³⁵² Based on this new research, the AER considers that oil price forecasts based on CPI are arrived at on a reasonable basis and represent the best possible forecast in the circumstances.³⁵³

Polyethylene pipe

The AER considers that SKM's forecast methodology for PE pipe produces forecasts that are not arrived at on a reasonable basis and do not represent the best possible forecast in the circumstances.³⁵⁴

SKM did not adequately demonstrate the relationship between PE pipe prices and oil prices. As explained earlier an input price increase does not necessarily result in the price of related outputs rising.

The reasonableness of the model is brought further into question because it conflicts with prior findings. SKM estimated a one per cent increase in oil prices leads to a 0.6 per cent increase in PE plastics prices.³⁵⁵ This relationship is twice as strong as that estimated by BIS Shrapnel for thermoplastics and oil prices in the US, and almost 10 times that estimated by the US Bureau of Labor Statistics.^{356,357}

The AER considers it is likely SKM's model is misspecified. The AER carried out a regression based on the method used by SKM to assess the reasonableness of SKM's model. The AER used monthly Bureau of Labor Statistics (BLS) PPI oil data and monthly Bloomberg PE data for the period 2004 to 2011. Following SKM's method, the AER converted the data from levels to percentage changes and smoothed the data using a six month rolling average. The percentage change in PE prices was then regressed on a linear combination of the percentage changes in oil prices from the previous six months. A constant was included and the regression was carried out using ordinary least squares. The AER found a 1 per cent change in oil prices leads to a 0.5 per cent change in PE prices. A relatively high adjusted R squared of 0.43 was obtained but none of the coefficients in the model were significant. Furthermore, the Durbin-Watson statistic was 0.53. This indicates it is likely the model is misspecified.³⁵⁸

³⁵¹ Alquist, R., Kilian, L. And Vigfusson, J., *Forecasting the Price of Oil*, Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 1022, July 2011, p. 26.

³⁵² NGR, r. 74(2).

³⁵³ NGR, r. 74(2).

³⁵⁴ NGR, r. 74(2).

³⁵⁵ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 25.

³⁵⁶ BIS Shrapnel, *Real Cost Escalation Forecasts to 2017*, November 2011, p. 66–67.

³⁵⁷ Weinhagen, J. C., *Price transmission: from crude petroleum to plastics products*, Monthly Labor Review, December 2006, p. 54.

³⁵⁸ Granger, C. and Newbold, P., 'Spurious Regression in Econometrics', *Journal of Econometrics*, Vol. 2, No. 2, 1974, p. 117.

The AER also carried out another regression using the same methodology except with unsmoothed data. This model predicted a 1 per cent increase in oil prices leads to a 0.3 per cent increase in PE prices. The adjusted R squared was 0.05 and the Durbin-Watson statistic was 1.37. This regression demonstrates smoothing the data overstates the explanatory power of the model and the relationship between oil and PE. The AER does not consider this model is a good representation of the relationship between oil and PE prices either. This is because the low R squared and the relatively low Durbin-Watson statistic both bring into question the explanatory power of the model.

In addition, the AER also considers SKM did not satisfactorily explain the model or data it has used to explore the relationship between oil and thermoplastics prices. The functional form, parameter coefficients, coefficients' significance, data sources, and diagnostic tests are not included by SKM in its report.³⁵⁹

C.6 Revisions

The AER requires the following revisions to make the Access arrangement proposal acceptable:

Revision C.1: Opex and capex forecasts should be amended to reflect the labour and materials cost forecasts set out in Table C.17.

³⁵⁹ SKM, *Victorian Gas Distribution Network annual material cost escalators 2013–2017*, March 2012, p. 25.

D Terms and conditions – Submissions

The AER has decided to accept a number of SP AusNet’s terms and conditions that the AER considers are consistent with the NGO. The AER received submissions that do not support the AER’s decision for some of those terms and conditions. The following table addresses those submissions and provides the AER’s reasons for its decision.

Clause	Submission	AER Consideration
2.1(b) Regulatory Instruments to take Precedence	<p>Origin submitted that clause 2.1(b) appears to state that in some circumstances of inconsistency between the terms and conditions and a regulatory instrument, the regulatory instrument may not necessarily prevail if the inconsistency arises as a result of greater detail in the terms and conditions. Origin submitted that clause 2.1(b) appears unnecessary and should be removed.³⁶⁰</p> <p>SP AusNet was not amenable to Origin’s proposed deletion of clause 2.1(b). SP AusNet submitted that this clause merely clarifies that a clause should not automatically be deemed inconsistent just because it contains further detail than a regulatory instrument.³⁶¹</p>	<p>The AER does not agree with Origin’s interpretation of clause 2.1(b). This clause states that where the Agreement contains provisions which regulate a matter in greater detail than the provisions of a regulatory instrument, then the provisions of the Agreement will not be taken to be inconsistent with a regulatory instrument merely by reason of the inclusion of that additional detail.</p> <p>The AER considers that clause 2.1(b) does not allow or anticipate a clause of the Agreement prevailing over a regulatory instrument where they are inconsistent. The AER considers that the terms and conditions will be unenforceable to the extent of any inconsistency with a relevant regulatory instrument.</p> <p>The AER considers that clause 2.1(b) is consistent with the NGO as it clarifies how the Agreement will operate where it governs matters that are also covered by a relevant regulatory instrument. This avoids unnecessary uncertainty, which promotes the efficient operation and use of gas services, an aspect of the NGO.</p>
3 Customer	APG submitted that this section should be revised to reflect the delayed	The AER considers that clause 3 has been drafted to cater for the delayed

³⁶⁰ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

³⁶¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 15

	<p>relationship commencement of NECF and to allow the section to come into force when NECF is implemented in Victoria.³⁶²</p> <p>SP AusNet was not amenable to APG's proposed revision to clause 3. SP AusNet submitted that this clause has been drafted to work both pre and post NECF. Further, it anticipates that during the access period, the ability under NECF for Service Providers to contract directly with customers will take effect.³⁶³</p>	<p>commencement of NECF, and therefore does not require further amendment as proposed by APG. This is discussed further in attachment 12, section 1.1.4 – <i>NECF</i>.</p> <p>The AER considers that this provides certainty and clarity. This promotes the efficient operation and use of gas services, an aspect of the NGO.</p>
<p>3(b)</p>	<p>AGL noted that clause 3(b) provides that once a direct relationship between a Service Provider and a customer no longer exists, the Service Provider will supply distribution services to a User in respect of that customer. AGL is concerned that this clause does not explicitly deal with charges that accrued during the direct relationship. AGL described a scenario whereby a customer arranges directly with the Service Provider for an extension to the network for an agreed charge, which the Service Provider later seeks to recover directly from the User. AGL does not consider that the User should be liable for distribution charges where it has not had the opportunity to mitigate the risk. AGL proposed significant amendments to this clause.³⁶⁴</p> <p>SP AusNet was not amenable to AGL's proposed revision to clause 3(b). SP AusNet submitted that the scenario envisaged by AGL would only arise with a large customer and not small customers. SP AusNet stated that when a Retailer is negotiating its retail contract with the customer it can manage this issue by, for example, either requiring the customer to continue its relationship to pay the distributor or to put in place necessary credit arrangements. Further, SP AusNet considered AGL's proposed revision to clause 3(b) would be inconsistent with the NECF regime.³⁶⁵</p>	<p>The AER does not consider that clause 3(b) would operate as anticipated by AGL. The AER does not consider that a User will be bound by the terms of an arrangement entered into directly between the Service Provider and a customer. Further, the AER does not consider that the User will be liable for charges that have accrued under such an arrangement.</p> <p>Clause 3(b) provides that where the direct arrangement between the Service Provider and customer described in clause 3(a)(i) and (ii) ceases to apply, then the Service Provider will provide that distribution service to the User with respect to the customer. The AER considers that the User can manage any concerns it may have with the continuation of the prior arrangement between the Service Provider and User, through its own negotiations with the customer when agreeing to an appropriate retail contract.</p> <p>The AER considers that clause 3(b) provides greater certainty to parties regarding their rights and obligations where a customer contracts directly with a Service Provider, or discontinues such an arrangement. The AER considers that this promotes the efficient operation and use of gas services, an aspect of the NGO.</p>
<p>4.4(b)</p>	<p>Entitlement to refuse service</p> <p>AGL submitted that clause 4.4(b) appears to limit liability for disconnecting a customer and accordingly would be more appropriately included in the Service</p>	<p>The AER does not agree with AGL's submission that clause 4.4(b) would be more appropriately included in the Service Provider/customer contract.</p>

³⁶² Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.

³⁶³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 17

³⁶⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁶⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 17-18

	<p>Provider/customer contract. Further, the disconnection rules in the NGR and the limitation of liability provisions in clause 13 provide adequate protection. AGL proposed deleting clause 4.4(b).³⁶⁶</p> <p>SP AusNet was not amenable to AGL's proposed deletion of clause 4.4(b). SP AusNet submitted that AGL's comment mischaracterises the nature of this clause. It is not about the Service Provider/customer relationship. Rather, it is about the relationship between the Retailer and the Service Provider and how this is affected by the Service Provider exercising rights available to it at law. The clause provides that if the Service Provider exercises rights at law against the customer to interrupt or disconnect then the retailer cannot sue the Service Provider because of this.</p> <p>SP AusNet also submitted that clause 13 is irrelevant as it limits liability for a breach, but clause 4.4(b) is clarifying that there is no breach of contract where the Service Provider is acting pursuant to its contractual and statutory entitlements against the customer.³⁶⁷</p>	<p>Clause 4.4(b) refers to a failure to provide Distribution Services in respect of a customer. It is referring to the services the Service Provider provides to the User with respect to the customer. Accordingly, it is relevant to the Agreement between the Service Provider and the User.</p> <p>The AER does not consider that the exemption of liability provisions in clause 13 are sufficiently similar to clause 4.4(b) to provide the Service Provider with the same level of protection.</p> <p>The AER considers that this clause clarifies the parties' obligations. This promotes the efficient operation and use of gas services, an aspect of the NGO.</p>
4.4(c)	<p>AGL submitted that the Service Provider should be obliged to notify the User as soon as reasonably practicable if the Service Provider becomes aware that gas which does not meet specifications may be delivered to a delivery point.³⁶⁸</p> <p>Origin submitted that clause 4.4(c) limits the liability of the Service Provider for refusing service in conditions where the User has introduced gas that does not meet specifications. Origin considers that the actions of the Service Provider can also lead to gas that does not meet specifications being introduced into the network and therefore the limitation on liability should work reciprocally.³⁶⁹</p> <p>SP AusNet was not amenable to Origin's proposed amendment to clause 4.4(c). SP AusNet submitted that the clause merely states that the Service Provider is not obliged to provide distribution services where there is off specification gas in the</p>	<p>AGL's submission is considered in attachment 12, section 1.1.4 – <i>Entitlement to refuse service</i>.</p> <p>The AER does not consider that clause 4.4(c) can operate reciprocally as stated by Origin, as it allows for the service provider to withhold the provision of distribution services or take mitigating action where off-specification or other harmful gas is introduced into the system. This is not a function that can be performed by a User. Therefore the AER does not consider that clause 4.4(c) should be amended to afford a reciprocal right to the User.</p> <p>The AER considers that this clause is designed to protect the network. Accordingly it promotes the efficient operation and use of gas services, an</p>

³⁶⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁶⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 18-20

³⁶⁸ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁶⁹ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

³⁷⁰ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 20-21

		distribution network, and permits the Service Provider to take action to mitigate the impact of this. SP AusNet noted that Retailers cannot take corrective action within the distribution network and therefore questioned what reciprocity Origin was referring to in its submission. ³⁷⁰	aspect of the NGO.
4.5	Suspension for retailer of last resort	<p>AGL submitted that the Retailer of Last Resort provisions in the NGL and NGR are preferable and that they should apply regardless of whether the relevant provisions have commenced operation in Victoria.³⁷¹</p> <p>SP AusNet was not amenable to AGL's suggested amendment to clause 4.5. SP AusNet submitted that clause 4.5(a) and (b) cater for a Retailer who chooses to strategically exit the market, create a RoLR event, and then seek to re-enter the market without paying the unpaid debt. These aspects are not covered by the National Energy Retail Law or existing regulatory instruments. SP AusNet further submitted that clause 4.5 is not inconsistent with the current RoLR scheme or that proposed to apply under NECF.³⁷²</p>	<p>The AER agrees with SP AusNet's submission that clause 4.5 caters for a situation that is not specifically covered by the relevant provisions of the NERL or other existing regulatory instruments.</p> <p>The AER considers that it would be inconsistent with the NGO to permit a User to re-enter the market following a ROLR event, without first satisfying previous unpaid debts. This could create perverse incentives for retailers to engage in strategic behaviour as anticipated by SP AusNet. Further, if a Service Provider is unable to recover unpaid debts it may pass on these costs through higher prices for consumers. This would not promote the efficient operation of gas services or be in the long term interests of consumers, which are aspects of the NGO.</p> <p>Further, for the reasons set out attachment 12, section 1.1.4 – <i>NECF</i>, the AER does not consider that provisions of NECF should be implemented via the terms and conditions of an access arrangement prior to its commencement in Victoria.</p>
4.7(a)-(b)	The User's obligations / Capacity management	<p>AGL submitted that it has no knowledge of what, beyond the Specifications, is appropriate—for example, what material or properties may be deleterious to the distribution system. Further, AGL stated that it has no control over this as upstream producers or pipelines will not agree to obligations over and above the standard specifications. AGL proposed deleting clause 4.7(a) and (b).³⁷³</p> <p>SP AusNet was not amenable to AGL's suggested deletion of clause 4.7(a) and (b). SP AusNet submitted that those sub-clauses deal with pressure and volume and the physical limitations of distribution assets, and not gas quality. SP AusNet considers</p>	<p>The AER does not agree with AGL's proposed deletion of sub-clause 4.7(a) and (b). The AER considers that the User is best placed to ensure that gas delivered to a transfer point satisfies pressure and volume requirements. This is because it is the User who enters into arrangements with gas suppliers and transmission pipeline operators to purchase gas and deliver it into the distribution network. The Service Provider is not a party to these arrangements and is therefore unable to impose any requirements on upstream entities.</p>

³⁷¹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁷² SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 21-22

³⁷³ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

that Users should ensure they meet volume and pressure requirements. Clause 4.7(a) is unduly generous to the User in only requiring it to 'take all reasonable actions' to the extent the matter is within 'its reasonable control'.³⁷⁴

The proposed term contains a qualification that the User is only required to take reasonable actions to the extent that such matters are within the User's control. Accordingly, where the User has no control over the volume or pressure of gas delivered into the system, it will not be liable under this clause.

The AER considers that the requirements in clauses 4.7(a) and (b) promote the efficient operation of gas services, an aspect of the NGO. These clauses operate to ensure that Users take and are incentivised to take necessary steps to avoid damage to the network.

The AER notes that AGL's submission appears to go more to clause 4.7(c), which requires the User to ensure that Gas injected into the distribution system complies with the Specifications and does not contain any material or have any properties deleterious to the distribution system. Clause 4.7(c) is discussed in attachment 12, section 1.1.4 – *Users obligations/capacity management*.

4.7(c)

APG submitted that Retailers can only be held responsible for actions that may be within their reasonable control to undertake. APG requested that the words "to the extent that such matters are within the User's reasonable control, take all reasonable actions" be inserted in front of 'ensure' in clause 4.7(c).³⁷⁵

AGL noted that the indemnity in clause 4.7(c) is a new indemnity and questioned why clause 13.5 (Indemnity by the User) is not sufficient. AGL proposed deleting all words in clause 13.5 after 'Specifications'.³⁷⁶

Origin submitted that the actions of the Service Provider can also lead to gas that does not meet specifications being introduced into the network, and therefore this clause should operate reciprocally.³⁷⁷

The AER does not agree with AGL's proposed variation to clause 4.7(c). The AER considers that the User is best placed to avoid or mitigate the risk of off-specification gas being injected into the distribution system, through its contractual arrangement with the supplier. The Service Provider cannot manage this risk as it has no relationship with suppliers. The AER considers that APG's proposed variation to clause 4.7(c) would be inconsistent with the NGO as it would not reflect an efficient allocation of risk. This would not promote efficient investment in gas services, an aspect of the NGO.

In response to Origin's submission, the AER questions how the actions of the Service Provider can lead to gas that does not meet specifications

³⁷⁴ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 22-23

³⁷⁵ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.

³⁷⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁷⁷ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

³⁷⁸ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 23-24

		<p>SP AusNet was not amenable to APG's proposed amendment to clause 4.7(c). SP AusNet submitted that the proposed wording suggests that gas specification is not within the reasonable control of retailers, which is not the case. The Service Provider has no control of the gas injected and it is accepted industry practice that risk for off specification gas sits with the User who can manage this risk through its arrangement with suppliers.³⁷⁸</p>	<p>being injected into the distribution system, as the Service Provider has no relationship with upstream suppliers. The AER does not consider that it would be appropriate to include a reciprocal obligation on the Service Provider as that contained in clause 4.7(c) where the Service Provider has no control over the quality of gas that will be injected into the distribution system.</p> <p>The AER has considered APG's submission in attachment 12, section 1.1.4 – <i>Users obligations/capacity management</i>.</p>
4.8	Title to gas	<p>AGL queried why an indemnity is included in this clause and why clause 13.5 (Indemnity by the User) is not sufficient. AGL proposed deleting all words after the phrase 'At all times, the User must ensure that it has good title to Gas it causes to be injected into the Distribution System).³⁷⁹</p> <p>Origin submitted that the word 'good' in clause 4.8 ('good title to gas') is unnecessary and should be removed.³⁸⁰</p> <p>SP AusNet was not amenable to AGL and Origin's proposed amendments to clause 4.8. In response to AGL's submission, SP AusNet stated that the indemnity has always been included in clause 4.8 and is required as clause 13.5 does not cover situations where the User does not have good title to the gas it is injecting.</p> <p>In response to Origin's submission, SP AusNet noted that the term 'good title' is a standard legal concept and terminology and it is required to ensure that Users have not encumbered or provided security over the gas that is being supplied to customers. To provide that the User has title only means the User has an ownership interest in the gas but that it may be subject to encumbrances or adverse interests.³⁸¹</p>	<p>The AER does not agree with AGL and Origin's proposed amendments to clause 4.8. The general indemnity in clause 13.5 only covers situations where the User causes damage to the distribution system or where a customer withdraws a quantity of gas that exceeds the customer's MHQ. It does not afford an equivalent protection as that provided under clause 4.8, which covers situations where the User causes gas to be injected into the distribution system to which it does not have good title.</p> <p>The AER considers that this clause acts to protect the Service Provider from risk that could arise if the User did not have good title to the gas it injects. This reduction in risk potentially leads to reduced costs, which is in the long term interests of consumers, an aspect of the NGO.</p> <p>Further, the AER agrees with SP AusNet that the term 'good title' is a standard legal concept and that its inclusion here is appropriate. The AER considers that this approach is consistent with the NGO as it ensures that gas which a user causes to be injected into the distribution system is not subject to encumbrances or adverse interests</p>
6.2(a)	Disconnection	<p>AGL submitted that the new phrase 'but only where permitted by applicable</p>	<p>The AER disagrees with Origin's contention that the additional wording is</p>

³⁷⁹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁸⁰ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

³⁸¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 24-25

<p>at the request of User</p>	<p>regulatory instruments to make such a request' in clause 6.2(a) is an unnecessary addition and should be deleted.³⁸²</p> <p>Origin also submitted that the additional wording in clause 6.2(a) is unnecessary, as it is contained in the definition of 'Disconnection Request' in the access arrangement.³⁸³</p> <p>SP AusNet disagreed with Origin's comment on the basis that the definition of 'Disconnection Request' requires that the form of the request must be as required by regulatory instruments, whereas clause 6.2(a) requires that the document may only be issued by the User when regulatory instruments allow it to issue the document. Nevertheless, SP AusNet stated that it was amenable to Origin and AGL's request, however, it noted that it considers the current drafting to be helpful.³⁸⁴</p>	<p>unnecessary as it is already contained in the definition of 'Disconnection Request'. As stated by SP AusNet in its response to Origin's submission, the definition of 'Disconnection Request' only refers to the form of the disconnection request. It does not require that the disconnection request only be made where permitted by applicable regulatory instruments.</p> <p>The AER does not consider that the inclusion of the additional wording in clause 6.2(a) is inconsistent with the NGO, as it clarifies that a disconnection request should only be made where permitted by a relevant regulatory instrument. The AER considers that this creates greater certainty, which promotes the efficient operation and use of gas services, an aspect of the NGO.</p> <p>Notwithstanding SP AusNet's willingness to remove this phrase, the AER considers that it should be retained.</p>
<p>6.2(c)</p>	<p>Origin noted that clause 6.2(c) stated that if the Service Provider has not made a reasonable attempt to disconnect the customer as requested, then it will cease charging the Network User for services. Origin submitted that the term 'reasonable attempt' is too ambiguous, since the User will otherwise remain liable to the Service Provider despite the Service Provider being negligent. Origin suggested the following alternative wording: 'is precluded from disconnecting the customer for reasons beyond its control'.³⁸⁵</p> <p>SP AusNet was not amenable to Origin's proposed amendment to clause 6.2(c). SP AusNet noted that it may be precluded from disconnecting a customer for a host of reasons. In general, SP AusNet consider that a 'reasonable attempt' is all that can be expected as going beyond this would be outside the Service Providers regulatory powers and would raise issues regarding customer perception and media attention.</p>	<p>The AER does not agree with Origin that the term 'reasonable attempt' in the context of clause 6.2(c) is too ambiguous. The AER considers that the term 'reasonable' is commonly used in a legal context and imputes an element of objectivity into the assessment of the Service Provider's actions. The AER considers that this qualification provides sufficient clarity regarding the Service Provider's obligations with respect to disconnection.</p> <p>Further, the AER does not consider that the Service Provider should be required to take actions that go beyond a reasonable attempt to disconnect a customer following a request by the User. The AER considers that a 'reasonable attempt' is a sufficient standard to impose on the Service Provider. A higher standard may impose greater costs on the Service Provider which, having regard to the NGO, would not be in the</p>

³⁸² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁸³ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

³⁸⁴ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 26-27

³⁸⁵ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

	<p>Further, SP AusNet considered that the term 'beyond its control' adds no further regulatory or legal clarity.³⁸⁶</p>	<p>long term interests of consumers.</p>
<p>6.2(f)</p>	<p>AGL submitted that disconnection is heavily regulated and therefore clause 6.2(f) is superfluous. AGL proposed that this clause should be deleted.³⁸⁷</p> <p>Origin also submitted that clause 6.2(f) is superfluous as the regulatory instruments referred to in that clause will take precedence. Origin also proposed that clause 6.2(f) be deleted.³⁸⁸</p> <p>SP AusNet was not amenable to the suggested deletion of clause 6.2(f). SP AusNet considered that the wording clarifies that a Service Provider may defer, delay or refuse to disconnect where a regulatory instrument allows or requires. It does not consider the clause to be superfluous as it clarifies for the parties that there may be regulatory reasons not to make the disconnection.³⁸⁹</p>	<p>The AER does not consider this term to be superfluous as it clarifies that the Service Provider may disconnect a distribution supply point in accordance with relevant regulatory instruments.</p> <p>The AER does not agree with Origin's submission that regulatory instruments will take precedence over clause 6.2(f) as the AER does not consider that there would be any inconsistency.</p> <p>The AER considers clause 6.2(f) to be consistent with the NGO as it clarifies the parties' rights and obligations under the haulage agreement where they are also governed by relevant regulatory instruments. This avoids uncertainty, the avoidance of which promotes the efficient operation and use of gas services, an aspect of the NGO.</p>
<p>6.2(g)</p>	<p>AGL submitted that the Service Provider should be held accountable to a higher standard to mitigate the risk of detriment or safety issue, as the User will still be liable for consumption where the Service Provider has failed to disconnect a property due to safety and security reasons. AGL proposed amending the clause to refer to 'best endeavours' rather than 'reasonable endeavours'. This would entail, for example, an obligation to attempt to disconnect in the street or to obtain a police escort.³⁹⁰</p> <p>SP AusNet was not amenable to AGL's proposed amendment to clause 6.2(g). SP AusNet submitted that a Service Provider can only be required to use reasonable endeavours to remove or mitigate the risk as best endeavours would mean incurring unreasonable costs. SP AusNet noted that the obligation has always been</p>	<p>The AER does not consider that a Service Provider should be required to go beyond using its reasonable endeavours to remove or mitigate the risk of detriment or a safety issue which prevents the Service Provider from disconnecting a supply point.</p> <p>The AER considers that any greater obligation, such as requiring the Service Provider to use its best endeavours, would impose a greater level of regulatory burden on the Service Provider. This may result in the Service Provider incurring costs that are disproportionate to the associated benefit of facilitating the timely disconnection of a premises. This would not be in the long term interests of consumers with respect to price, an aspect</p>

³⁸⁶ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27

³⁸⁷ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁸⁸ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

³⁸⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27

³⁹⁰ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

reasonable endeavours for this reason, and that Service Providers are not funded to disconnect whatever the cost.³⁹¹

of the NGO.

6.2(h)

AGL submitted that if a Service Provider refused to disconnect, or delays disconnection, the User should not be liable for all distribution and gas costs. AGL noted that the User is unable to mitigate these risks and that the Service Provider is usually in a better position to resolve the situation. AGL considered that if the User is liable for all the costs, the Service Provider will have no incentive to rectify the reason for the failure to disconnect. AGL noted that r. 105 of the NERR states that where a Service Provider fails to disconnect, the distributor must waive all network charges and pay for the energy consumption charges at the premises. AGL proposed amending clause 6.2(h) by including the additional condition that the Service Provider has used best endeavours to disconnect a customer where required by clause 6.2(g).³⁹²

SP AusNet was not amenable to AGL's proposed amendment to clause 6.2(h). SP AusNet noted that clause 6.2(g) already requires the Service Provider to use its reasonable endeavours to remove or mitigate the issue with disconnection and further, is subject to anything to the contrary in applicable regulatory instruments. SP AusNet submitted that where, despite using reasonable endeavours, a Service Provider cannot disconnect, and where no contrary legal requirement applies, it is appropriate that the User continue to be responsible for charges to that customer.

SP AusNet also noted that r. 105 of the NERR only applies where a Service Provider fails to de-energise within the timeframes in a distributor service standard and only where this is not 'due to an act or omission of the customer or retailer'.³⁹³

The AER does not agree with AGL's proposed amendment to clause 6.2(h). The AER notes that clause 6.2(g) already imposes a requirement on the Service Provider to use its reasonable endeavours to remove or mitigate the risk of detriment or a safety issue which prevents the Service Provider from disconnecting a supply point. As discussed above, the AER does not consider that the Service Provider should be required to go beyond using its reasonable endeavours to remove or mitigate the risk (such as using its best endeavours as proposed by AGL). The AER does not consider that repeating this requirement in clause 6.2(h) will create any greater incentive on the Service Provider to remove or mitigate this risk or to facilitate the timely disconnection of a premises.

As stated by SP AusNet, rule 105 of the NERR only applies where a Service Provider fails to de-energise a customer's premises within the timeframes specified in a distributor service standard, and does not apply where the distributor's failure to de-energise the premises is due to an act or omission of the customer or retailer. The AER also notes that clause 6.2(g) is qualified by the statement 'except as provided to the contrary in applicable Regulatory Instruments'. The AER therefore does not consider that clause 6.2(h) would contradict the operation of rule 105 of the NERR, as it expressly allows for the NERR to take precedence.

6.2(j)

AGL queries why clause 13.5 (Indemnity by the User) isn't sufficient. AGL also submitted that, if clause 6.2(j) is to remain, the Service Provider should also

The AER does not agree with AGL's proposed deletion of clause 6.2(j). The general indemnity in clause 13.5 only covers situations where the

³⁹¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27-28

³⁹² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁹³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 28

indemnify the User for any claims brought against the User for the Service Provider's actions or omissions.³⁹⁴

SP AusNet was not amenable to AGL's proposed amendment to clause 6.2(j). SP AusNet noted that this specific indemnity has always been included because clause 13.5 does not cover claims made against Service Providers where disconnecting at the User's request. SP AusNet submitted that cl. 13.5 clearly doesn't cover disconnections. Further, SP AusNet considered that there was no need to insert a further reciprocal indemnity as an indemnity was already contained in clause 11.3.³⁹⁵

User causes damage to the distribution system or where a customer withdraws a quantity of gas that exceeds the customer's MHQ. It does not afford an equivalent protection as that provided under clause 6.2(j), which covers situations where a claim is brought against the Service Provider as a consequence of a customer disconnection pursuant to a disconnection request.

The AER considers that it is necessary to include cl. 6.2(j) to protect a Service Provider where a claim is brought against it for disconnecting a premises pursuant to a request by the User. The AER considers that deleting this indemnity could lead to increased charges by the Service Provider. This would not be in the long term interests of consumers with respect to price, an aspect of the NGO.

The AER does not agree with SP AusNet that clause 11.3 provides Users with an indemnity that is reciprocal to clause 6.2(j). Clause 11.3 provides that the Service Provider shall indemnify the User against claims arising as a consequence of any action taken by the User to enforce the Service Provider's rights at the request of the Service Provider. AGL's submission states that the service provider should indemnify the user for any claims brought against the user for the service provider's acts of omissions.

6.3(b)

Disconnection
at the Request
of a Customer

AGL queried how a Service Provider will determine that a person is 'purporting' to be a customer as AGL does not provide Service Providers with validation information.

AGL was concerned that the new clause could prevent the Service Provider from fulfilling its connection obligation. AGL proposed deleting clause 6.3(b).³⁹⁶

SP AusNet was not amenable to AGL's proposed deletion of clause 6.3(b). SP AusNet agrees with AGL that Service Providers have little information to determine a customer's identity. SP AusNet submitted that where the Service Provider feels that a

The AER considers that the Service Provider should be permitted to refuse a disconnection request if it is unable to verify the identity of the customer requesting disconnection. The AER considers this necessary to ensure that the Service Provider does not mistakenly disconnect a customer who has not requested disconnection. The AER considers that avoiding mistaken disconnections promotes the efficient operation and use of gas services, an aspect of the NGO.

³⁹⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

³⁹⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29

³⁹⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

request may be made to them inappropriately or vexatiously, it is appropriate that the request be validated by the retailer.³⁹⁷

The AER therefore considers that the new clause 6.2(b) should be retained. Further, the AER considers that it is appropriate to enable the Service Provider to refer the customer to the User where it considers that the User will be more readily able to verify the identity of the customer. As noted by AGL, a Service Provider does not have access to validation information and therefore this function may be best performed by the User.

Origin submitted that the obligation in clause 6.5 should be reciprocal.³⁹⁸

AGL noted that clause 2.3 of SP AusNet's proposed terms and conditions, and r. 94 of the NERR, requires assistance and cooperation between the parties. AGL therefore queried why clause 6.5 is necessary or at least not reciprocal. AGL proposed replacing cl. 2.3 and replacing it with a reference to the NERL and other supporting regulatory instruments.³⁹⁹

SP AusNet was not amenable to AGL and Origin's proposed amendments to clause 6.5. SP AusNet submitted that clause 6.5 deals with the specific circumstances of exercising rights under the haulage agreement (as well as exercising rights under regulatory instruments). The clause deals with critical issues, such as restoring supply and interrupting and curtailments to maintain the integrity of network operations. SP AusNet considered that it is critical that the Service Providers have the retailer's assistance in these processes.

SP AusNet did not consider r. 94 to be sufficient because it is mainly concerned with information or documents, whereas clause 6.5 is about assistance to restore or manage supply issues. SP AusNet submitted that the danger in relying on r. 94 is that, because it is vague in its ambit, a distributor may not get the co-operation it requires. SP AusNet also noted that r. 94 is not currently in force. SP AusNet noted that clause 2.3 suffers from some of the same issues in that it is too general.

Regarding reciprocity, SP AusNet submitted that clause 6.5 is concerned with actions

The AER does not consider that clause 6.5 should operate reciprocally as stated by Origin and AGL, as it concerns the provision of assistance in relation to the curtailment, interruption, disconnection or reconnection of customers or the restoration of supply to customers. The AER does not consider that a User would require similar assistance from a Service Provider as these are not functions that would be performed by a User.

The AER does not consider that clause 2.3 should be deleted as proposed by AGL. The AER considers that to ensure that a Service Provider can efficiently operate its network, it should be permitted to request assistance from Users with respect to curtailment, interruption, disconnection or reconnection of customers. The functions are critical to the efficient and safe operation of a Service Provider's network. The AER notes that this clause is limited to the extent that the request must be reasonable. The AER considers that the reference to reasonableness provides sufficient protection to the User as it limits the ambit of the Service Provider's discretion. The AER considers that this clause promotes the efficient operation and use of gas services, aspects of the NGO.

The AER notes that clause 2.3 requires the parties to give all reasonable assistance and to co-operate with the other party to allow that other party to comply with its obligations under the Agreement or a regulatory instrument. While the AER acknowledges that there may be some overlap

6.5 Assistance

³⁹⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29

³⁹⁸ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

³⁹⁹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁰⁰ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29-31

		<p>the Service Provider must take to manage its networks and supply issues. It is not clear to SP AusNet when the retailers would face similar issues as they do not manage physical infrastructure. SP AusNet stated that if the retailers are able to nominate the types of matters they consider they need assistance with, then SP AusNet will consider the inclusion of a clause for the required support.⁴⁰⁰</p>	<p>between the two clauses, it considers that the clauses will differ in their scope and application. Clause 6.5 is specific to certain critical functions performed by the Service Provider, and does not contain the same limitation as clause 2.3 that the assistance and/or cooperation must be provided to allow the other party to comply with its obligations under the Agreement or a regulatory instrument.</p>
7.1(e)	Charges	<p>In its submission, AGL recognised that Service Providers need to recover costs when they are unable to complete a service due to a User's or customer's error. However, AGL submitted that it is in a consumer's (and User's) best interest if these charges, and all excluded charges, are disclosed and explained, and not arbitrary. AGL considered that the terms and conditions should either identify each charge and to what it relates, or should provide that the parties will agree.⁴⁰¹</p> <p>SP AusNet was not amenable to AGL's proposed amendment to clause 7.1(e). SP AusNet submitted that there was no ambiguity in the clause as it simply states that if a service cannot be completed because of the act or omission of the retailer or customer, then the Service Provider may still charge for that service as if it had been undertaken. SP AusNet considered that a Service Provider should be able to recover costs it has incurred where it is unable to carry out a service due to an act or omission of the User or customer.</p> <p>Further, SP AusNet noted that the actual costs incurred by the Service Provider before it is clear that the service cannot be completed could be very different in different scenarios. To provide this level of detail in the industry B2B process would add significant costs.⁴⁰²</p>	<p>While the AER recognises the benefit to Users of increased disclosure and certainty with respect to charges, the AER considers that it would be difficult and costly for the Service Provider to identify and define all possible failed distribution service in its haulage contract. As noted by SP AusNet, there are multiple scenarios that could lead to a failure to provide a service and a number of points along the work schedule at which the failure could occur. This in turn will impact on how a Service Provider defines the failed service and calculates an appropriate charge.</p> <p>The AER considers that clause 7.1(e) provides sufficient clarity to Users regarding its liability for charges where a Service Provider is unable to complete a relevant distribution service.</p> <p>To the extent that AGL believes such charges should be included in the terms and conditions, the AER considers this a commercial matter best negotiated between the parties.</p>
7.3(d)	GST	<p>Origin submitted that clause 7.3(d) should state that the supplier must issue an adjustment note to the recipient within 14 days upon first becoming aware of the adjustment, since this is a precursor to the supplier being able to recover the adjustment note.⁴⁰³</p>	<p>The AER considers that it is appropriate to include a clause governing GST as it provides greater clarity to the parties and avoids uncertainty. This promotes the efficient use and provision of gas services, an aspect of</p>

⁴⁰¹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁰² SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 31-32

⁴⁰³ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

		SP AusNet was not amenable to Origin's proposed amendment to clause 7.3(d). SP AusNet stated that there is nothing in the GST law that necessitates a 14 days requirement. In fact, suppliers would be required under GST law to recover/refund even after an arbitrary 14 day period. Therefore, Origin's proposal is inconsistent with existing law. ⁴⁰⁴	the NGO. To the extent that Origin seeks amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.
7.3(e)		Origin submitted that clause 6.3(e) seeks to make the recipient liable for the supplier's failure to pay its own GST obligations. This is unreasonable and unnecessary, since obligations already exist on the recipient to pay GST as required to the supplier. Origin proposed deleting clause 6.3(e). ⁴⁰⁵ SP AusNet was not amenable to Origin's proposed deletion of clause 7.3(e). SP AusNet did not agree with Origin's description of the effect of this clause as the clause does not seek to make the recipient liable for the supplier's failure to pay its own GST obligations. What it states is that if the recipient fails to pay the supplier, thereby causing the supplier to incur a fine, penalty or cost, then that risk is borne by the recipient. SP AusNet noted that clause 7.2(e) is a standard GST clause. ⁴⁰⁶	The AER considers that that it is appropriate to include a clause governing GST as it provides greater clarity to the parties and avoids uncertainty. This promotes the efficient use and provision of gas services, aspects of the NGO. To the extent that Origin seeks amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.
7.4(a)	Invoicing, Payment & Interest	AGL submitted that clause 7.4(a) enables SP AusNet to invoice 'no more frequently than twice per month'. As Users are unable to bill small customers more often than every two months, Service Providers should not be able to render invoices more frequently than once per month. ⁴⁰⁷ SP AusNet was not amenable to AGL's proposed amendment to clause 7.4(a). SP AusNet noted that calendar monthly billing represents a change to the current approach and is not what AGL or the other retailers indicated they wanted at the workshop. ⁴⁰⁸	To the extent that AGL seeks amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.
7.4(d)		AGL submitted that this clause should be extended to situations where the User is	The AER does not agree with AGL's submission that clause 7.4(d) should

⁴⁰⁴ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33

⁴⁰⁵ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5

⁴⁰⁶ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33

⁴⁰⁷ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁰⁸ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33-34

unable to recover from the customer for reasons beyond the User's control, for example, due to customer insolvency.

Further, AGL submitted that because r. 508 of the National Gas (Retail Support) Rules prohibits distributors from recovering charges that the retailer is unable to recover, this clause should be reworded to prohibit the Service Provider from issuing the invoice rather than allowing a retailer not to pay.⁴⁰⁹

SP AusNet was not amenable to AGL's proposed amendments to clause 7.4(d). SP AusNet submitted that the structure underpinning the current Victorian regulatory regime, as well as NECF, is that the retailer takes the risk on customer solvency and cash flow. AGL is seeking to transfer this risk to the Service Providers. This would require an increase in distribution service charges to compensate the Service Providers for the additional risk of providing services.

SP AusNet noted that in any event, it has never been the case that a retailer's obligation to pay is dependent on a retailer receiving payment from the customer. SP AusNet considers that clause 7.4(d) is appropriate as it states that if the User can recover the amount of the invoice, then it must pay the invoice, but if it cannot recover the amount then it is not required to pay. AGL's proposed amendment would deprive the Service Provider of the right to receive funds for services actually provided even though AGL is able to collect those amounts from the customer.⁴¹⁰

be extended to apply where the User is unable to recover costs for other reasons beyond the User's control. The AER does not consider that the Service Provider should bear the risk that a User is unable to recover distribution charges from a customer, unless the Service Provider is expressly prohibited from recovering those charges from the User under a relevant regulatory instrument.

The AER considers that the User is best able to remove or mitigate the risk of a customer defaulting on a payment to the User, as it can manage that risk through, for example, appropriate credit support arrangements. In most circumstances, the Service Provider will have no direct relationship with the customer, and therefore is unable to manage the risk of a customer defaulting.

Accordingly, the AER considers that this clause is consistent with the NGO. It appropriately allocates risk which is likely to reduce costs. This is in the long term interests of consumers, an aspect of the NGO.

Further, the AER does not agree with AGL's submission that clause 7.4(d) should be reworded to prohibit the Service Provider from issuing an invoice, rather than allowing the Retailer not to pay. The AER does not consider that the Service Provider will be able to readily identify when a User will be precluded from recovering costs from a relevant customer by operation of a regulatory instrument. The AER therefore considers it appropriate that the Service Provider continue to issue an invoice for Distribution Services, but for the customer to refuse payment by operation of clause 7.5(d).

7.4(g)

Origin proposed amending clause 7.4(g) so that the charges are invoiced no later than the second invoice after the data becomes available, to ensure timely invoicing.

Origin's submission is discussed in attachment 12, section 1.1.4 – *Distribution services: Invoicing payment and interest.*

⁴⁰⁹ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴¹⁰ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 34-35

⁴¹¹ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5-6

⁴¹² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

SP AusNet was amenable to Origin's proposed amendment.⁴¹¹

AGL submitted that for the sake of clarity, clause 7.4(g) should state that any estimates and invoicing are done in accordance with any relevant regulatory instrument.⁴¹²

SP AusNet did not agree with AGL's suggested variation to clause 7.4(g). SP AusNet noted that the drafting was inserted to cater for the fact that Service Providers cannot bill all customers in one invoice for a calendar month. Under NECF the invoice is due by the 10th business day but the Service Providers only receive data from AEMO on around the 18th day. SP AusNet submitted that this drafting deals with a timing issue, and therefore it is not appropriate to refer back to the relevant regulatory instruments that have created this issue.⁴¹³

To the extent that AGL seeks amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.

APG submitted that payment of invoices within 10 business days is not consistent with the timeframe under which retailers are able to receive payment from consumers (13 business days under NECF). AGL suggested that this timeline should be equalised.⁴¹⁴

SP AusNet was not amenable to this suggestion. SP AusNet stated that the requirement has always been 10 Business Days and is consistent with the requirement post NECF. SP AusNet stated that retailers are able to bill customers up to 5 or 6 weeks before the Service Provider can render a bill for the customer's distribution charges. The relationship APG suggested between the retailer bill payment period and the network bill payment period is nebulous.⁴¹⁵

AGL submitted that this clause refers to the date of receipt or deemed receipt, however, the amended clause requires the User to pay within 10 days from the date of issue specified on the notice. AGL does not support this amendment as if the Service Provider does not issue in a timely manner, AGL may not be able to pay by

The AER considers that a clause specifying the time for payment of invoices acts to avoid uncertainty. This promotes the efficient operation and use of gas services, aspects of the NGO.

To the extent that APG and AGL seek amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.

7.4(k)

⁴¹³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 35

⁴¹⁴ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3

⁴¹⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36

	<p>the date of issue on the invoice. AGL suggested reverting back to the original clause.⁴¹⁶</p> <p>SP AusNet was not amenable to this suggestion. SP AusNet stated that the change to date of issue is to align with the definition of “due date for payment” in 502 of Part 21 of the NGR to be implemented as part of NECF. SP AusNet was unclear re AGL’s issue. Retailer payment is from the date of issue and a late issue of the invoice just pushes the retailer payment period out by the same number of days as the Service Providers delay.⁴¹⁷</p>	
7.4(l)	<p>APG requested that Austraclear be allowed as an additional payment method to bank deposit.⁴¹⁸</p> <p>SP AusNet was not amenable to this suggestion. SP AusNet claimed that it is not set up as a sub participant in Austraclear and therefore cannot accept payment by Austraclear. SP AusNet has used Austraclear in the past for a very small volume of payments. It was not cost effective or efficient to continue to maintain Austraclear so SP AusNet has ceased using the system since July 2011. SP AusNet has successfully worked with its retailers and suppliers to utilise Corporate Online for all of its receipts and payments. It would not be cost effective or efficient for SP AusNet to support Austraclear for payments made by only one retailer. If the situation changes during the next regulatory control period SP AusNet will contact APG.⁴¹⁹</p>	The AER considers this a commercial matter best negotiated between the parties.
7.7	<p>Disputed Invoices</p> <p>AGL submitted that it is unnecessary and highly inefficient to have Service Provider specific disputed invoice clauses. The proposed r. 510 (Disputed statement of Charges) of the National Gas Rules adequately covers the topic.</p> <p>AGL suggested deleting clause 7.7 and replacing it with: "Where a provision of the National Retail Energy Law or a supporting regulatory instrument regulates [disputed</p>	<p>The AER considers that a dispute resolution clause is necessary because it provides a mechanism for resolving disputes without needing to resort to litigation. This provides for minimising costs, which is in the long term interests of consumers with respect to price, an aspect of the NGO.</p> <p>The AER considers that until NECF commences in Victoria it is appropriate</p>

⁴¹⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴¹⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36

⁴¹⁸ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3

⁴¹⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36

		<p>invoices], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria." ⁴²⁰</p> <p>SP AusNet was not amenable to this suggestion. SP AusNet stated that until such time as NECF is implemented in Victoria, there needs to be a mechanism to deal with disputed invoices between Retailers and Service Providers. The provisions are drafted to fall away on implementation of NECF so SP AusNet failed to see how this is in any way inefficient.</p> <p>SP AusNet noted that clause 7.7(j) was added to temper the requirement under NECF for all billing issues to go to the formal dispute process after 10 days, by putting an obligation on both parties to negotiate to resolve the issue in this period. ⁴²¹</p>	<p>to include a mechanism for dealing with disputed invoices in the terms and conditions. SP AusNet has drafted clause 7.7 so that it will cease to apply and be replaced by relevant NECF provisions upon its implementation in Victoria.</p> <p>As discussed in attachment 12, section 1.1.4 – <i>NECF</i> the AER considers this approach to be appropriate given the delayed commencement of NECF.</p>
7.8(m)	Credit Support-Bank Guarantee	<p>Origin submitted that clause 7.8(m) is a duplication of the National Gas Rules and so can be removed. ⁴²²</p> <p>SP AusNet was not amenable to the suggested deletion. Clause 7.8(m) is not a duplication of the NGR, it is a transitional provision allowing for the credit support regime in the NGR to take over from the contractual regime. This transitional issue is simply not dealt with in Part 21. Further there is nothing objectionable in clause 7.8(m) – it simply states that once Part 21 commences the parties will adjust whatever credit support is then existing between them to ensure the Retailer has provided the exact amount required by Part 21. ⁴²³</p>	<p>The AER does not agree with Origin's submission and considers that clause 7.8(m) is not a duplication of the NGR. Rather a transitional provision allowing for the credit support regime in the NGR to take over from the contractual regime upon the implementation of NECF in Victoria.</p> <p>The AER considers that providing for the transition from contractual to regulatory obligations avoids uncertainty. This promotes the efficient operation and use of gas services, aspects of the NGO.</p>
8.2	Provision of Information	<p>Origin submitted that it is not feasible to include differing privacy notices for different access providers and is unclear why the privacy notice needs to be specific to a particular gas distributor. Instead, Origin proposed that this clause be modified such that the User be required to provide its customers a reasonable privacy notice that permits the Service Provider and the User to exchange such personal information as</p>	<p>The AER considers that clarifying the manner in which customer information may be used acts to avoid disputes and uncertainty. This will potentially limit costs, which is in the long term interest of consumers with respect to price, an aspect of the NGO.</p> <p>The AER does not agree with Origin's suggested change. The AER</p>

⁴²⁰ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴²¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 37

⁴²² Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴²³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 37-38

		<p>is required and to discharge their obligations under privacy laws and the regulatory instruments.⁴²⁴</p> <p>SP AusNet was not amenable to this change. SP AusNet noted that this clause has been operating in its present form for many years. SP AusNet also noted the increasing concerns of end users regarding privacy, each of the Service Providers will have their own business' privacy policies to cover their concerns and the National Privacy Principles. Further, each of the Service Providers are required to have a privacy policy by the NERR Schedule 2 contract which is available for customers. A generic Users' privacy policy may not meet all of the Service Provider business' concerns.⁴²⁵</p> <p>AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation) covers this obligation. AGL suggested deleting clause 8.2 and replacing it with: "Where a provision of the National Retail Energy Law or a supporting regulatory instrument regulates [provision of information], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria."⁴²⁶</p> <p>SP AusNet was not prepared to contract as if NECF is in force.⁴²⁷</p>	<p>considers that it is feasible to include differing privacy notices for different access providers. Clause 8.2 has remained unchanged from the previous Access Arrangement. Accordingly, it appears that the retailers are presently following this process.</p> <p>The AER considers that the Service Provider is best placed to decide on the nature of the privacy policy appropriate to its business, subject to compliance with relevant regulatory obligations. The AER considers this a commercial matter best negotiated between the parties.</p> <p>As discussed in attachment 12, section 1.1.4 – <i>NECF</i> the AER considers this approach to be appropriate given the delayed commencement of <i>NECF</i>.</p>
8.5	Changes in Information	<p>AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation) covers this obligation. AGL suggested deleting clause 8.5 and replacing it with: "Where a provision of the National Retail Energy Law or a supporting regulatory instrument regulates [provision of information], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria."⁴²⁸</p> <p>SP AusNet was not prepared to contract as if NECF is in force.⁴²⁹</p>	<p>As discussed in section attachment 12, section 1.1.4 – <i>NECF</i> the AER considers that the proposed approach is appropriate given the delayed commencement of <i>NECF</i>.</p>
8.6	Accuracy of	<p>AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation)</p>	<p>As discussed in attachment 12, section 1.1.4 – <i>NECF</i> the AER considers</p>

⁴²⁴ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴²⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 38-39

⁴²⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴²⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 38-39

⁴²⁸ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴²⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39

	Information	covers this obligation. AGL suggested deleting clause 8.6 and replacing it with: "Where a provision of the National Retail Energy Law or a supporting regulatory instrument regulates [provision of information], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria." ⁴³⁰ SP AusNet was not prepared to contract as if NECF is in force. ⁴³¹	that the proposed approach is appropriate given the delayed commencement of NECF.
9.1-9.3	Answering Calls, Provision of Information for inquiries and interruptions	AGL submitted that Division 3 of Part 5 of the NERR (Information Requirements) covers these obligations. AGL suggested deleting clauses 9.1-9.3 and replacing them with: "Where a provision of the National Retail Energy Law or a supporting regulatory instrument regulates [provision of information], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria." ⁴³² SP AusNet was not prepared to contract as if NECF is in force. ⁴³³	As discussed in attachment 12, section 1.1.4 – <i>NECF</i> attachment 12, section 1.1.4 – <i>NECF</i> the AER considers that the proposed approach is appropriate given the delayed commencement of NECF.
9.1(a)		Origin submitted that clause 9.1(a) is a duplication of the National Gas Rules and so can be removed. ⁴³⁴ SP AusNet was not amenable to this deletion. SP AusNet stated that 9.1(a) deals with any inconsistency between the protocols in 9.1 and the relevant NECF requirements. ⁴³⁵	The AER does not agree with Origin's submission that 9.1(a) is a duplication of NGR. The AER considers that 9.1(a) is intended to ensure that that the Access Arrangement does not contradict provisions within Divisions 3 and 4 of part 5 of the NERR. The AER considers that providing for a mechanism to govern communications between the parties acts to promote the efficient operation and use of gas services. These are aspects of the NGO
9.1(j)		APG requested SP AusNet to review clause 9.1 to ensure its consistency with Victorian law and regulation until such time as NECF is implemented. Specifically, APG requested the word 'negligent' be inserted in clause 9.1(j) before the words 'act or omission of the User'. ⁴³⁶	The AER considers that it is in the interests of consumers to be informed of curtailments or outages that occur as a result of any 'act or omission' by their Retailer.

⁴³⁰ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴³¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39

⁴³² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴³³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41

⁴³⁴ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴³⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41

⁴³⁶ Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 4

		<p>SP AusNet was not amenable to this change and it stated that clause 9.1 sets out the current approach in Victoria for customer enquiries. SP AusNet stated that this approach will continue under NECF and cannot agree to the insertion of “negligent” in 9.1(j) as the cause of the fault of failure may not be a negligent act or omission. What clause 9.1(j) is stating is that if the User has created the problem with gas supply then it needs to liaise with its customers in relation to that problem. This should apply irrespective of how the User created the problem – whether through its negligence or otherwise.⁴³⁷</p> <p>Origin submitted that clause 9.1(j) is not relevant to a haulage agreement and is unnecessary; as upstream outages and shortages of supply are managed via the Australian Energy Market Operator and Energy Safe Victoria across the whole industry. Origin submitted that this clause be removed.⁴³⁸</p> <p>SP AusNet was not amenable to this change. SP AusNet stated that responsibility for notifying customers of upstream interruptions is relevant to haulage arrangements and it is right that this is the responsibility of the Retailers.⁴³⁹</p>	<p>The AER does not agree with Origin’s submission that 9.1(j) be removed. Curtailments or outages that occur upstream of the Service Provider’s network or as a result of an act or omission of the user are within the control and responsibility of users. The user is best placed to inform customers of these curtailments or outages. The AER therefore considers it appropriate that the user be required to notify customers of these curtailments or outages.</p> <p>The AER considers that this will be in the long term interests of consumers with respect to reliability and security of supply, which are elements of the NGO.</p> <p>Finally, if a User considers, as Origin has submitted, that this clause is irrelevant and unnecessary then this is a commercial matter best negotiated between the parties.</p>
9.4(b)	Customer Details	<p>AGL submitted that the phrase “except to the extent the details have already been provided by the User to the Service Provider” is not consistent with current market practice and requirements.⁴⁴⁰</p> <p>SP AusNet was amenable to AGL’s suggested change, but noted that it was intended to be of assistance to Retailers.⁴⁴¹</p>	<p>This phrase appears to have been added to ensure that the User did not have an obligation to provide information, which has already been provided in previous access periods. The AER considers that by removing this obligation the clause promotes the efficient operation of gas services, an aspect of the NGO.</p> <p>Notwithstanding SP AusNet’s willingness to remove this phrase, the AER considers that it should be retained.</p>
9.7	Enquiries or Complaints relating to the	<p>AGL submitted that rule 101 of NERR (Enquiries or complaints relating to the retailer) should apply. AGL suggested deleting clause 9.7 and replacing it with: “Where a provision of the National Retail Energy Law or a supporting Regulatory</p>	<p>As discussed in attachment 12, section 1.1.4 – <i>NECF</i> the AER considers that the proposed approach is appropriate given the delayed</p>

⁴³⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41

⁴³⁸ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴³⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41

⁴⁴⁰ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁴¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 41

	User	Instrument regulates enquiries and complaints those provisions will apply, regardless of whether such provisions have commenced operation in Victoria.” ⁴⁴² SP AusNet was not amenable to this change. SP AusNet stated that the clause is drafted so that Rule 101 of NERL will take over from this clause upon implementation of NECF in Victoria. For these reasons SP AusNet is not prepared to contract as if NECF is in force when it is not. ⁴⁴³	commencement of NECF.
9.8	Enquiries or Complaints relating to the User	AGL submitted that rule 102 of NERR (Enquiries or complaints relating to the distributor) should apply. AGL suggested deleting clause 9.8 and replacing it with: “Where a provision of the National Retail Energy Law or a supporting Regulatory Instrument regulates enquiries and complaints those provisions will apply, regardless of whether such provisions have commenced operation in Victoria.” ⁴⁴⁴ SP AusNet was not amenable to this change. It stated this clause is drafted so that Rule 102 of NERL will take over from this clause upon implementation of NECF in Victoria. For the reasons outlined above SP AusNet was not prepared to contract as if NECF is in force when it isn’t. ⁴⁴⁵	As discussed in attachment 12, section 1.1.4 – <i>NECF</i> the AER considers that the proposed approach is appropriate given the delayed commencement of NECF.
9.9	Ombudsman Complaints	AGL submitted that clause 9.9 is an exceptionally long clause and asks whether it can be condensed. ⁴⁴⁶ SP AusNet was amenable in principle to shortening the clause. However, SP AusNet was not convinced that length in itself is a major issue. SP AusNet stated that there are various Service Provider/User interactions required in the EWQV process and clarity of the relative obligations is more important than brevity. ⁴⁴⁷	The AER considers that if the parties wish to reduce the length of the clause, as they have agreed to, then this is a commercial matter best negotiated between them.
9.12	Information for Customers	AGL submitted that Rules 101 & 102 of NERR (Enquiries or complaints relating to the distributor) should apply. AGL suggested deleting clause 9.12 and replacing it	The AER considers that it is beneficial to specify the obligations to assist the other party in responding to customer information requests. Specifying

⁴⁴² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁴³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 42

⁴⁴⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁴⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 42

⁴⁴⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁴⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 42

		<p>with: “Where a provision of the National Retail Energy Law or a supporting Regulatory Instrument regulates enquiries and complaints those provisions will apply, regardless of whether such provisions have commenced operation in Victoria.”⁴⁴⁸</p> <p>SP AusNet was not amenable to this change. SP AusNet stated that this clause is dealing with information requests by customers and does not conflict with 101 or 102 of the NERR once those provisions are implemented in Victoria.⁴⁴⁹</p>	<p>each party's obligations acts to avoid uncertainty. This promotes the efficient operation and use of gas services, aspects of the NGO.</p> <p>The AER does not agree with AGL’s submission on clause 9.12 given that NERR is yet to be adopted in Victoria. The AER’s reasons are discussed in attachment 12, section 1.1.4 – <i>NECF</i>.</p> <p>The AER also considers that the current clause will not conflict with rules 101 or 102 of the NERR once those provisions are implemented in Victoria.</p> <p>The AER notes that there has been no change to this proposed clause from SP AusNet’s current Access Arrangement.</p>
11.3	The Service Provider to Indemnify the User	<p>AGL queries why clause 13.5 (Indemnity by the User) isn’t sufficient. If this clause was to remain, the Service Provider should also indemnify the User for any claims that are brought against the User for the Service Provider’s actions or omissions.⁴⁵⁰</p> <p>SP AusNet was amenable to the suggested deletion. SP AusNet note that the indemnity in 11.3 protects Users but have no objection to deleting 11.3 in its entirety.⁴⁵¹</p>	<p>The AER considers that clause 11.3 benefits the User. Clause 13.5 relates to indemnities the User gives to the Service Provider and therefore benefits the Service Provider. Accordingly, clause 11.3 is not covered by clause 13.5.</p> <p>The AER considers that it is reasonable for the Service Provider to indemnify the User against any loss it incurs as a result of enforcing the Service Provider’s rights. If this indemnity was not in place, the User could suffer loss as a result of enforcing the Service Provider’s rights. This loss would be likely to be passed on to consumers. This would not be in the long term interests of consumers with respect to price, an aspect of the NGO.</p> <p>Notwithstanding SP AusNet’s willingness to remove this clause, the AER considers that it should be retained.</p>
11.4	The User to Notify customer	<p>AGL submitted that with the triangular relationship (that will exist once NECF is adopted in Victoria), this obligation is no longer necessary and that these</p>	<p>The AER does not agree with AGL’s submission on clause 11.4. The AER considers that the matters listed in the relevant schedule are important and</p>

⁴⁴⁸ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁴⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43

⁴⁵⁰ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁵¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43

	<p>and the Service Provider obligations can be/ are communicated in the Service Provider/customer connection contract. AGL submitted that clause 11.4 and Schedule 2 be deleted.⁴⁵²</p> <p>SP AusNet was not amenable to the suggested deletion. SP AusNet stated that the new NECF deemed connection agreement with customers will not be enforceable until NECF is implemented in Victoria. SP AusNet stated that it therefore cannot agree to remove this clause. Further, SP AusNet stated that in any event, the details listed in Schedule 2 are not covered in the NECF deemed connection agreement and so the requirement will need to remain even post NECF.⁴⁵³</p>	<p>are designed to promote the efficient operation and use of gas services, aspects of the NGO.</p>
<p>13.2 & 13.3</p> <p>Liability of Supply</p>	<p>AGL submitted that the quality/supply interruptions are entirely within the control of the Service Provider, and therefore this clause should be amended so that the Service Provider should indemnify the User in such instances.</p> <p>AGL's suggested amendment to clause 13.2 removes the reference to a 'deemed contract'.⁴⁵⁴</p> <p>SP AusNet was not amenable to the suggested change. SP AusNet submitted that it is not correct to state that quality/supply interruptions are entirely within the control of Service Providers. If an issue with quality arises it is because a Retailer has introduced off-specification gas into the system. Interruptions may be required because of conditions Users have created in the system, for example not controlling their aggregate gas take.</p> <p>SP AusNet noted that Service Providers have no control over what Users put in their contracts with customers.</p> <p>SP AusNet also stated that clause 13.2 already provides the User with an indemnity in respect of quality/supply interruptions where it is the fault of the Service Provider, but also ensures Service Providers are not exposed for any greater liability to the User than it would have been directly to the customer.</p>	<p>The AER does not agree with AGL's submission and considers that clause 13.2 already provides the User with an indemnity in respect of quality/supply interruptions where it is the fault of the Service Provider.</p> <p>The AER considers that the User is best placed to avoid or mitigate the risk of quality/supply interruption. A User is able to do this by ensuring that off-specification gas is not injected on its behalf into the distribution system. The User can manage this risk through its contractual arrangement with the supplier. The Service Provider cannot manage this risk as it has no relationship with suppliers.</p> <p>The AER considers that clause 13.2 acts to protect the User against liability where the Service Provider would be liable under a deemed contract. The AER considers that this is an appropriate indemnity. If this indemnity was broader, it would increase the level of risk borne by the Service Provider, which could potentially impact on its costs, increasing its prices. This would not be in the long term interests of consumers with respect to price, an aspect of the NGO.</p> <p>The AER considers that if a User wishes to remove the reference to a 'deemed contract' then this is a commercial matter best negotiated</p>

⁴⁵² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁵³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43

⁴⁵⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

		Finally, SP AusNet stated that Service Providers have no control over the terms and conditions in contracts reached between Users and customers. ⁴⁵⁵	between the parties.
13.6(b)		<p>AGL queried the necessity of this new sub-clause as it appears to limit previous indemnities and liabilities. AGL submitted that clause 13.6(b) should be deleted.⁴⁵⁶</p> <p>SP AusNet stated that the purpose of clause 13.6(b) is to bring the terms and conditions into line with typical access arrangements in the energy industry under which liability for consequential type losses are excluded for both Users and Service Providers. SP AusNet claimed that Victorian terms and conditions are significantly out of alignment with industry practice.</p> <p>Further, SP AusNet claimed that the proposed regime remains significantly more generous to Retailers than other regimes. For example in the Jemena Access Arrangement for New South Wales Jemena only takes liability up to the amount it can recover on its insurance and there is an extensive list of User indemnities for which liability is not limited.⁴⁵⁷</p>	<p>The AER does not agree with AGL's interpretation of clause 13.6(b). Sub-clause 13.6(b)(7) specifically provides that nothing in clause 13.6(b) limits the scope of, or liability under, any indemnity in this Agreement. The AER therefore does not consider that clause 13.6(b) would operate to limit previous indemnities and liabilities under the access arrangement terms and conditions, as stated by AGL.</p> <p>The AER considers that clause 13.6(b) should be included in the access arrangement terms and conditions, as it is common industry practice to exclude indirect or consequential liability under a haulage agreement. The AER also notes that a similar exclusion of liability clause was included in the Jemena and Envestra access arrangements. The AER therefore considers clause 13.6(b) to be consistent with the NGO, as it reflects current industry practice, which in turn promotes the efficient operation of natural gas services.</p>
13.6(b)(7)	Exemption of Liability	<p>Origin submitted that clause 13.6(b)(7) appears to severely curtail the limitations on liability that appear in clauses 13.6(b)(1-5). Origin questioned the need for this clause and proposes that it be removed.⁴⁵⁸</p> <p>SP AusNet was not amenable to this deletion. SP AusNet stated that clause 13.6(b)(7) only applies to the indemnities in the terms and conditions. SP AusNet stated that clause 13.6(b)(7) only applies to indemnities which flow both ways, which are confined to the specific circumstances set out in the terms and conditions. SP AusNet claimed that the protections in clause 13.5(b)(1) to (5) apply to the various breaches which do not fall within the scope of the indemnities.⁴⁵⁹</p>	<p>The AER does not agree with Origin's submission as it considers that clause 13.6(b) should not operate to limit the scope of, or liability under, any indemnity in the Agreement. The AER considers that an indemnity should reflect the circumstances in which it has been determined that all loss resulting from an event should fall on a specific party, because the risk of that event is best managed by that party. This may include indirect or consequential loss which may otherwise be excluded by the operation of clause 13.6.</p> <p>The AER also notes that a number of indemnities throughout the</p>

⁴⁵⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43-45

⁴⁵⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁵⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48

⁴⁵⁸ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴⁵⁹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48

			<p>Agreement specifically relate to indirect or consequential loss. If clause 13.6(b)(7) was deleted, then clause 13.6(b) could create uncertainty as to the operation of those specific indemnities.</p> <p>The AER considers that if the parties consider that an indemnity should be limited in its scope, then this should be specifically provided for in the indemnity, rather than through the operation of a general exclusion of liability clause such as clause 13.6(b).</p>
13.6(b)(8)		<p>Origin submitted that in clause 13.6(b)(8) the reference “for example GST” should be removed since it is unnecessary and GST obligations are covered elsewhere.⁴⁶⁰</p> <p>SP AusNet stated, in respect of clause 13.6(b)(8), that Origin’s comment is in error. SP AusNet claimed that clause 13.6(b)(8) is designed to address an argument like that Origin is running in respect of clause 13.5(c) that failure to pay invoices is a loss of revenue and therefore ability to recover such payments is excluded by clause 13.6(b)(1). Further, clause 13.6(b)(8) does not impose any further liability to pay GST than that which already exists under the terms and conditions.⁴⁶¹</p>	<p>The AER does not agree with Origin’s submission.</p> <p>The AER consider that the inclusion of this example does not substantively change the clause and notes that GST is covered under clause 7.3.</p> <p>The AER considers that this sub-clause contains an important qualification that aids in clarifying the obligations under the Agreement. This creates certainty which promotes the efficient provision and use of gas services, aspects of the NGO.</p> <p>To the extent that Origin wants the GST example removed from this clause, the AER considers this to be a commercial matter best negotiated between the parties.</p>
14	Dispute Resolution	<p>AGL queried why the Service Providers want to use IAMA for arbitration, as this would require the parties buying its rules. AGL’s external lawyers recommend using ACICA. AGL also queries whether mediation is appropriate at this stage as the dispute would have been raised and negotiated at a senior level, perhaps court/arbitration should be the next step? AGL suggests that clause 14 should be deleted.⁴⁶²</p> <p>SP AusNet was not amenable to this change. SP AusNet stated that there needs to be some form of dispute resolution clause and that the IAMA are the more commonly used rules in Australia. Further, SP AusNet stated that the IAMA rules</p>	<p>The AER does not agree with AGL’s submission and considers that provision for dispute resolution is an appropriate and important part of a commercial contract. The AER considers that provision for alternative dispute resolution is consistent with the NGO as it provides a lower cost mechanism for resolving disputes, and avoiding litigation. This is in the long term interests of consumers with respect to prices, an aspect of the NGO.</p> <p>In relation to the choice of rules, the AER considers that the rules proposed by SP AusNet are appropriate and any change to this is a</p>

⁴⁶⁰ Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6

⁴⁶¹ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48

⁴⁶² AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

		are for domestic arbitrations whereas the ACICA rules are for international arbitrations. ⁴⁶³	commercial matter best negotiated between the parties.
Sch 1	Approved Form of Unconditional Undertaking	<p>AGL submitted that this Schedule 1 is no longer necessary with the tri-partite relationship. AGL requested that Schedule 1 be deleted.⁴⁶⁴</p> <p>SP AusNet was not amenable to this deletion. SP AusNet stated that Users still have to provide credit support in an acceptable form and that if and when NECF is implemented in Vic the NECF credit support provisions will take effect.⁴⁶⁵</p>	<p>The AER considers that a credit support regime is consistent with the NGO. This regime provides for the protection of Service Provider's financial position. This is likely to promote the efficient investment in gas services, an aspect of the NGO.</p> <p>The AER considers that it is important to have an effective credit support regime in place that will apply until NECF is adopted in Victoria.</p>
Sch 3	Services other than Reference Services	<p>AGL submitted that this Schedule is no longer necessary with the tri-partite relationship. AGL requested that Schedule 3 be deleted.⁴⁶⁶</p> <p>SP AusNet was not amenable to this deletion. SP AusNet stated that the details listed in Schedule 3 are not covered in the NECF deemed connection agreement and so the requirement will need to remain even post NECF.⁴⁶⁷</p>	<p>The AER considers that the obligations placed on the User to notify customers of certain matters is consistent with the NGO as it is in the customers interests to be informed of such matters.</p>

⁴⁶³ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 48

⁴⁶⁴ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁶⁵ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 49

⁴⁶⁶ AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A

⁴⁶⁷ SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 49