Access arrangement draft decision

Multinet Gas (DB No. 1) Pty Ltd

Multinet Gas (DB No. 2) Pty Ltd

2013–17

Part 1

September 2012

AUSTRALIAN ENERGY REGULATOR

Contents

Shortened forms

Shortened form	Full title
2008-12 access arrangement	Access arrangement for Multinet 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 Multinet effective from 1 January 2018 to 31 December 2022 inclusive
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
access arrangement information	Multinet, Access arrangement information, 30 March 2012
access arrangement proposal	Multinet, 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
Multinet	Multinet Gas (DB No.1) Pty Ltd (ACN 086 026 986), Multinet Gas (DB No.2) Pty Ltd (ACN 086 230 122)
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
WACC	weighted average cost of capital

Summary

This is the AER's draft decision on Multinet'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 Multinet'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 Multinet's access arrangement proposal, and details a number of revisions that AER requires Multinet make to its proposal to make it acceptable under the National Gas Rules. Multinet can lodge a revised proposal following the draft decision, and the AER will make a final decision on the revised proposal.

Draft decision

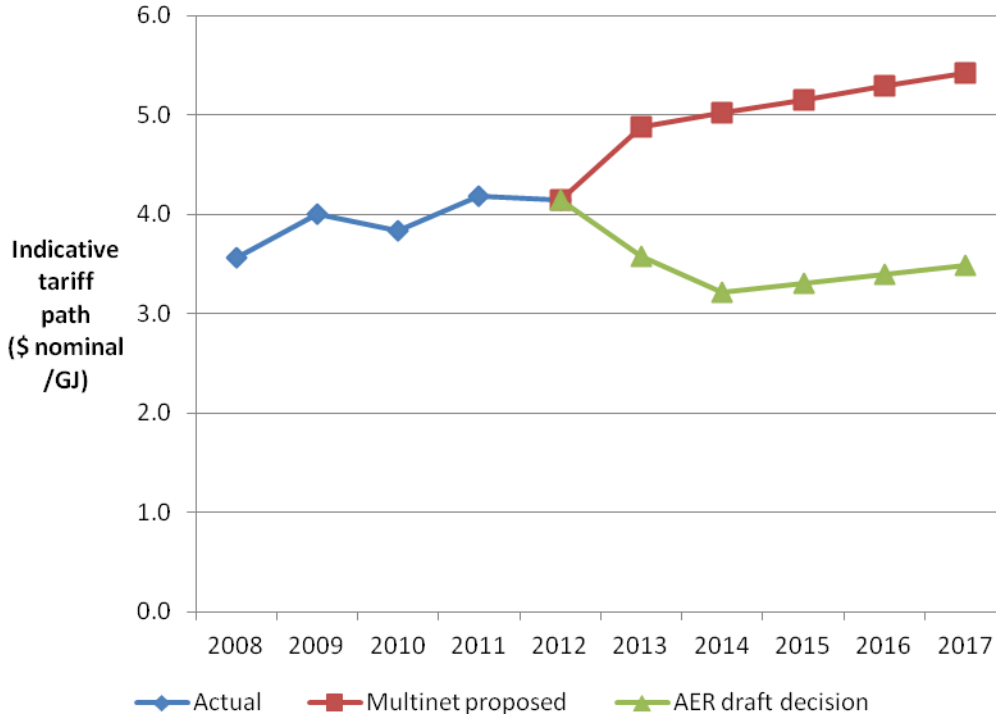
The AER's draft decision on the total expected (smoothed) revenue derived from Multinet's reference services is $781.9 million ($nominal).[1] This is 31.7 per cent lower than Multinet's proposed (smoothed) revenue over the 2013–17 access arrangement period. In addition, the AER's draft decision on Multinet's ancillary reference service revenue is $7.9 million ($nominal) over the 2013–17 access arrangement period.

Indicative tariffs

This draft decision will result in reference tariffs being approximately 34.1 per cent lower on average over the 2013–17 access arrangement period (in nominal dollar terms) compared to Multinet's proposed tariffs; and 14 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 Multinet's proposal is shown in figure 1.

[1] The AER's smoothed revenues are derived from the AER's smoothed tariffs. Smoothed tariffs multiplied by forecast demand equals the smoothed revenue. The smoothed revenues are equal in net present value terms to Multinet's unsmoothed building block revenue requirements.

Figure 1 **Indicative reference tariff paths for Multinet's reference services from 2013 to 2017 ($/GJ, nominal)**



Source: AER analysis.
Note: This chart shows an indicative tariff path, based on forecast revenues and forecast demand for Multinet's network. Multinet's actual tariffs will first be updated on 1 July 2013 to reflect the AER's decision. For this reason, the indicative 2013 tariff above is an average of the higher 2012 tariffs, and lower 2013 tariffs (from 1 July 2013 to 31 December 2013) to reflect the AER's decision. Because of this mid-year change of tariffs in 2013, the chart above shows a further reduction in indicative tariffs in 2014. However, on 1 January 2014, the AER's draft decision forecasts that actual tariffs will increase to reflect CPI.

Impact on residential bills

In Multinet's network area, approximately 30 per cent of an average residential gas bill is from gas distribution reference services.[2] If the decrease in distribution tariffs was passed through to consumers, a typical residential bill of $1050 could be expected to reduce by approximately $8 ($nominal) per year. This compares with an increase of $18 ($nominal) per annum that would have resulted from Multinet's proposal.

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

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

[2] The AER derived this estimate based on annual consumption of 60GJ per annum. 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 Multinet's approved tariffs for 2010 and 2011. The averages of the tariffs across Multinet's distribution zones applied in the AER's analysis uses a weighted average of volume by tariff class.

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 Multinet's proposed 9.06 per cent). While the AER accepts most of Multinet's rate of return proposal, it does not accept Multinet's proposed risk free rate. Multinet 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 $179.5 million of the $375.3 million of capex proposed by Multinet (a reduction of approximately 52 per cent). While some proposed capex projects were accepted, the AER rejected aspects of Multinet's proposed mains replacement program and augmentation 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 Multinet 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 direct overheads and IT and overheads capex to bring these in line with industry standards. The projections for customer numbers were also revised.

Operating expenditure

The draft decision is to approve $270.3 million of the $362.7 million of opex proposed by Multinet (a reduction of approximately 25 per cent). Multinet proposed a 'bottom-up' approach to estimating opex that was not based on historical opex. The AER did not accept this approach. Instead, the AER's draft decision is to estimate forecast opex by applying its usual base year forecasting approach.

Next steps

Multinet 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 Multinet'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/4799

Once the AER has considered submissions and Multinet'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 Multinet, 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 provider[3] 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.[4]

1.1 Overview of the service provider

Multinet distributes gas to more than 665 000 customers throughout the South and East areas of metropolitan Melbourne, Yarra Ranges and South Gippsland Towns. Multinet's network covers an area of 1790 square kilometres (see figure 1.1 below).

Multinet was established when the State Government-owned Gas and Fuel Corporation was corporatised in the 1990s. Multinet was subsequently privatised in 1999. In July 2011, Diversified Utility and Energy Trust (DUET) increased its shareholding in Multinet to 100 per cent. DUET is an ASX-listed owner of energy utility assets in Australia. DUET is managed jointly by AMP Capital Investors Limited and Macquarie Funds Group.

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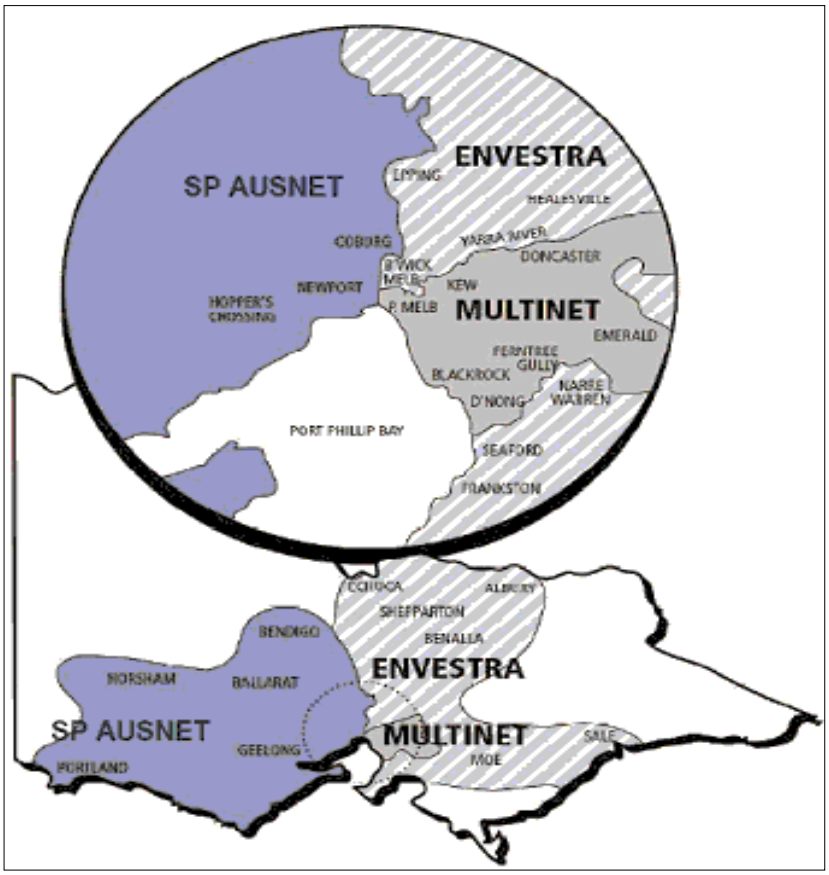
3 Under s.8 of the NGL a service provider is a person who owns, controls or operates a gas pipeline.

4 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 (ESC) made the previous determination on Multinet'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 ESC to the AER on 1 July 2008 as part of the move towards the national regulation of the energy market.[5] 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 Multinet's access arrangement proposal to be approved. These amendments have been identified by assessing each element of Multinet'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

[5] National Gas (Victoria) Act 2008 (Vic), Part 5.

assessment required of) a particular element of Multinet'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.[6]

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

However, there are two overarching requirements that apply to the assessment of Multinet'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.[7] 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.

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6 NGR, r. 40.

7 NGL, s. 28(1).

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.[8] 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-
>
> (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 Multinet's gas distribution network in the long term interests of consumers whilst

[8] NGL, s. 28(2).

providing Multinet with a reasonable opportunity to recover at least its efficient costs and effective incentives to promote economic efficiency.

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.[9] An access arrangement proposal contains the terms, including prices, 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 section 1.3.4 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.[10] The AER may defer the initiating notice if, on a preliminary inspection, the AER considers the proposal or related information are deficient in some respect.[11]

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.[12] The AER must include a statement of the reasons for the draft decision.[13] 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.[14]

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9 NGL, s. 132.
10 NGR, r. 58(1).
11 NGR, r. 58(2).
12 NGR, r. 59(1); r. 71(2).
13 NGR. r. 59(4).
14 NGR, r. 59(2).

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.[15] It follows that, if the AER withholds its approval to any element of an access arrangement proposal, the proposal cannot be approved.[16]

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.[17] 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.[18]

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.[19] 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.[20] The amendments must be limited to those necessary to address matters raised in the access arrangement draft decision unless the AER approves further amendments.[21]

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.[22] 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.[23]

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15 NGR, r. 41(1).
16 NGR, r. 41(2).
17 NGR, r. 64(1).
18 NGR, r. 65(2).
19 NGR, r. 59(2).
20 NGR, r. 60(1).
21 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.
22 NGR, r. 59(5)(b) & (c).
23 NGR, r. 62(1).

An access arrangement final decision is a decision to approve, or to refuse to approve, an access arrangement proposal.[24] An access arrangement final decision, like an access arrangement draft decision, must include a statement of the reasons for the decision.[25] The final decision must also be published on the AER's website.

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.[26] For the calculation of elapsed time for making 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.[27]

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.[28] 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.[29]

1.3.4 Completeness of Multinet'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.[30] Incomplete or deficient access arrangement information can impede and delay the AER's consultation and decision making processes.

Prior to receiving Multinet's access arrangement proposal, the AER consulted with Multinet 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.[31] The purpose of the RIN was to obtain information from Multinet to assist the AER in assessing its access arrangement proposal.

Upon receiving Multinet's access arrangement proposal, the AER conducted a preliminary assessment of the proposal and access arrangement information against the requirements of the NGR. Following this assessment, the AER considered Multinet's access arrangement information to be deficient. Pursuant to r. 43, the AER required Multinet to submit further access arrangement information, as an addendum, in relation to the following issues.

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24 NGR, r. 62(2).
25 NGR, r. 62(4).
26 NGR, r. 62(7).
27 NGR, r. 11.
28 NGR, r. 11(1)(c).
29 NGR, r. 13.
30 NGR, r. 42(1).
31 NGL, s. 46.

First, during its preliminary examination of the access arrangement proposal, the AER found that Multinet had 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.

Second, the AER found that Multinet had not provided sufficient information:

- supporting the basis for its operating expenditure forecasts
- explaining its proposed opening capital base and estimate of taxation.

This lack of information impacted upon the timing of the AER's assessment of Multinet's proposed capital and operating expenditure.

Deficiencies in Multinet's access arrangement information resulted in the release of the AER's draft decision on Multinet's access arrangement proposal being delayed. Consequently, less time will be afforded to Multinet relative to the other Victorian distribution businesses to submit its revised access arrangement proposal. The time taken to correct the two deficiencies was disregarded for the purposes of calculating the elapsed time relating to the AER's deadline for making the draft decision.

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 Multinet'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 Multinet) 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 Multinet's revised proposal are due 7 January 2013. Further information on providing a submission to the AER can be found at: http://www.aer.gov.au/node/4799

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

Key stages in the decision making process	Scheduled date
AER received Multinet proposal	30 March 2012
Multinet proposal published	2 May 2012
Industry workshop on terms and conditions	18 May 2012
AER draft decision released	24 September 2012
Multinet 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.[32] In summary, the AER is authorised to disclose confidential information where it is of the opinion that:

- 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.[33]

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 conducted the tasks and 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)
- Appendices—detailed discussion of common, technical issues
- Confidential appendices—sections of the AER's analysis that include protected information

In making its draft decision, the AER considered Multinet'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.

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

33 NGL, s. 329(1).

2 AER approach

As the owner and operator of a gas distribution network, Multinet 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 Multinet's proposed gas access arrangement for the 2013–17 access arrangement period.

In order to assess Multinet'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 Multinet which provide for the injection, withdrawal and conveyance of gas on its gas distribution network. This is discussed in more detail in chapter 4, 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

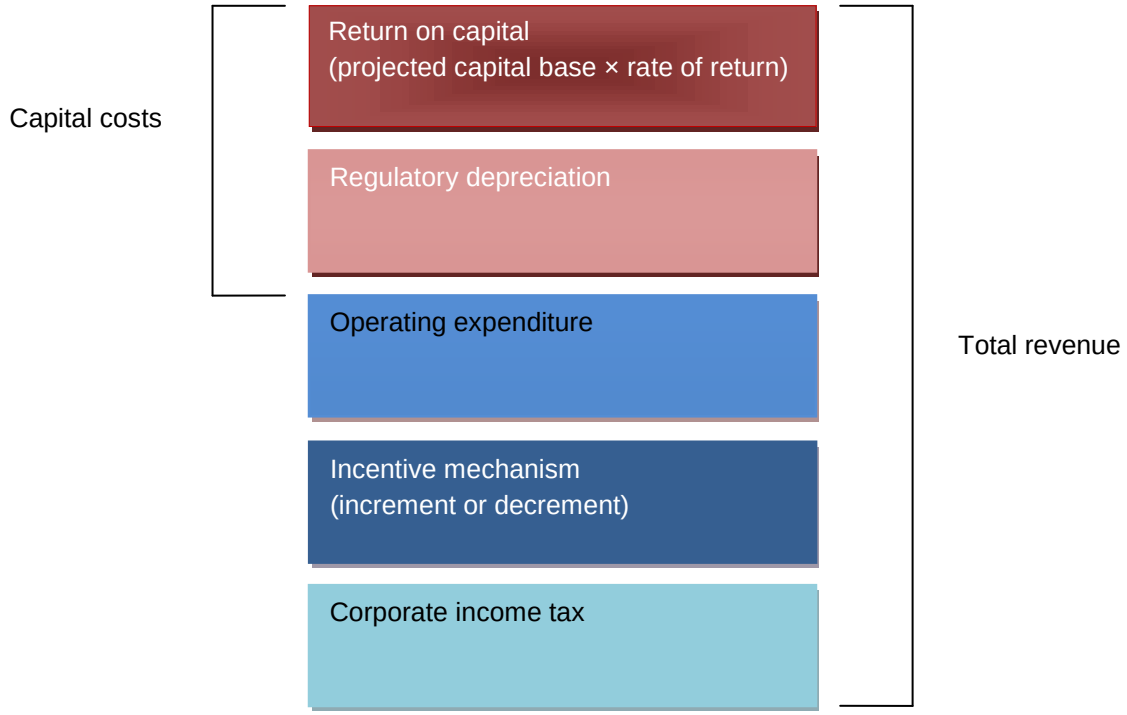
Assessing tariffs for reference services involves first assessing the total revenue required to deliver Multinet's distribution services. Consistent with the NGR, the AER uses the building block approach to determine the total revenue allowance. Total revenue under the building block approach is set 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, attachment 6 and appendix C
- increments and decrements resulting from an incentive mechanism[34]—chapter 10 and attachment 7
- corporate income tax[35]—chapter 11 and attachment 8.

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

This is illustrated in figure 2.1.[36]

Figure 2.1 Building block approach



These building blocks are taken into account in determining Multinet'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 Multinet'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 Multinet's proposal, the AER assesses whether Multinet's

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35 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.

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

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 Multinet'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 D.

2.3 What the AER considers in reaching its draft decision

The AER's draft decision on Multinet'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 Multinet's access arrangement proposal and supporting information provided by Multinet
- considered information provided by Multinet in response to information requests from the AER
- considered submissions from interested parties
- considered views expressed at stakeholder events
- undertaken its own analysis to verify the information provided by Multinet
- considered expert advice or analysis commissioned in relation to certain aspects of Multinet's access arrangement proposal.

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 chapter 1.

There were significant information gaps and inconsistencies in Multinet's proposal. This meant the AER had to request further information in respect of a number of issues. In many cases, Multinet's responses to the AER's information requests were slow and remained inadequate. This failure to provide information in a timely manner affected the AER's assessment process and has led to a delay in finalising the draft decision. As a result of the delay, Multinet now has less time to submit its revised access arrangement proposal in response to the draft decision.

3 Total revenue requirements and the impact on price

Multinet'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 Multinet'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 Multinet's access arrangement proposal.

These elements are discussed in more detail in the remainder of the draft decision. Interlinkages between these elements are discussed in chapter 16.

This chapter 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.

3.1 Draft decision

The AER's draft decision on the total (smoothed) expected revenue derived from Multinet's reference services is $781.9 million ($nominal).[37] This is calculated by smoothing the total building block revenue requirement of $787.6 million ($nominal). [38]

This (smoothed) revenue requirement is 31.7 per cent lower than Multinet's proposed (smoothed) reference services revenue over the 2013–17 access arrangement period. The AER accepts that some aspects of Multinet's 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 that would reduce Multinet's proposed revenue include:

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

Figure 3.1 compares Multinet'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. As shown, Multinet's proposed smoothed revenues for the 2013–17 access arrangement period are 34.5 per cent higher than the ESC allowed revenues for the 2008–12 access arrangement period.

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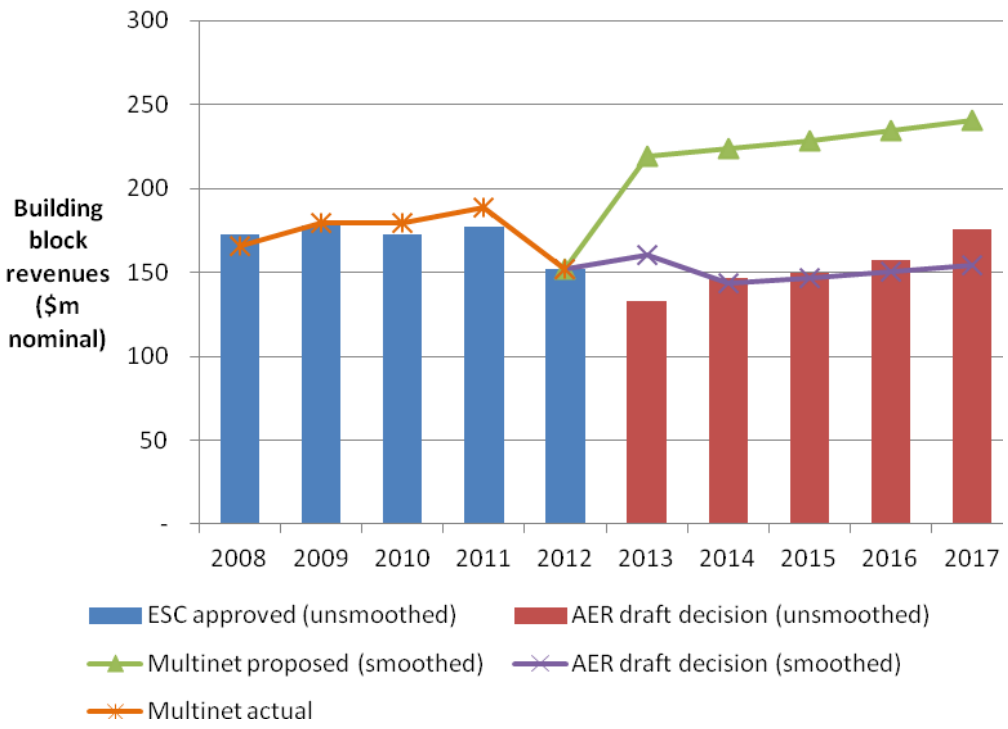
[37] The AER's smoothed revenues are derived from the AER's smoothed tariffs. Smoothed tariffs multiplied by forecast demand equals the smoothed revenue. The smoothed revenues are equal in net present value terms to Multinet's unsmoothed building block revenue requirements.

[38] This is net of ancillary reference service revenue of $7.9 million ($nominal) over the 2013–17 access arrangement period.

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



Source: AER analysis.

The AER's draft decision on Multinet's total revenue is arrived at by summing the 'building blocks' that were set out in section 2.1 of chapter 2 of this document. These building blocks are shown in Table 3.1 and are each discussed in greater detail in this draft decision and the attachments to the document.

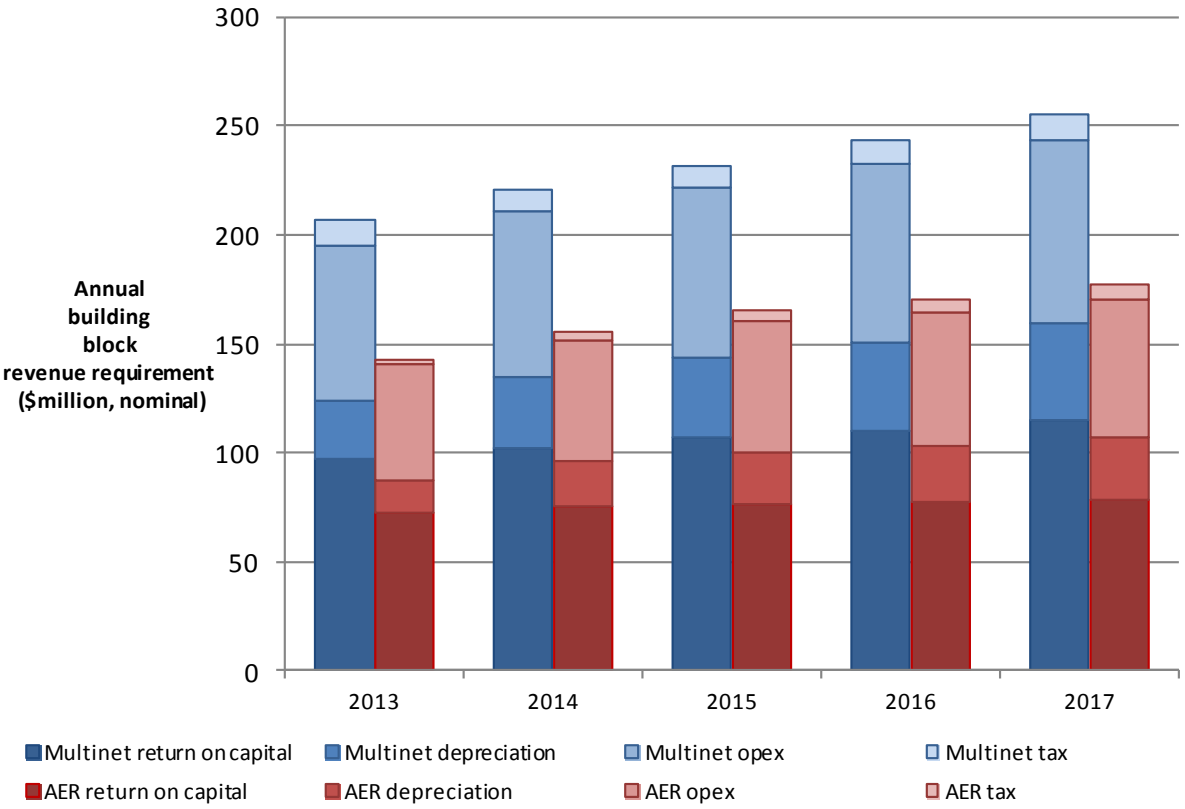
Table 3.1 AER's draft decision on Multinet's proposed revenue requirements for its reference services ($million, nominal)

	2013	2014	2015	2016	2017	Total
Return on capital	72.7	75.3	76.3	77.3	78.3	379.9
Regulatory depreciation	14.9	20.7	23.5	26.2	29.1	114.3
Operating expenditure	53.8	55.8	57.9	61.0	63.0	291.4
Efficiency carryover	–3.9	–3.1	–5.4	–5.4	–	–17.8
Net corporate income tax allowance	5.0	4.6	4.9	6.0	7.2	27.7
Less: ancillary reference services revenue	1.5	1.5	1.6	1.6	1.7	7.9
Annual building block revenue requirement (unsmoothed)	141.0	151.7	155.6	163.4	175.9	787.6
Annual expected revenue requirement (smoothed)	163.7	149.1	152.5	156.4	160.2	781.9
X factor	23.5%	0.0%	0.0%	0.0%	0.0%	n/a

Source: AER analysis.
n/a Not applicable.

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

Figure 3.2 AER's draft decision and Multinet'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 Multinet'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 Multinet's reference services of $781.9 million ($nominal) over the 2013–17 access arrangement period. This is calculated by smoothing the total building block revenue requirement of $787.6 million ($nominal).[39] The AER's draft decision on smoothed reference service revenue represents a 31.7 per cent reduction of Multinet's proposed smoothed revenue over the 2013–17 access arrangement period.

This reduction is primarily driven by differences between Multinet'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 $409.6 million ($nominal) to $194.7 million ($nominal) (a reduction of approximately 52.5 per cent)

[39] This is net of ancillary reference service revenue of $7.9 million ($nominal) over the 2013–17 access arrangement period.

- forecast opex[40], which has reduced from $391.3 million ($nominal) to $273.6 million ($nominal) (a reduction of approximately 30.1 per cent).

Table 3.2 shows that total unsmoothed revenue would be $129.80 million ($nominal) or 11.27 per cent lower than Multinet's proposed total revenue when the AER's draft decision on the rate of return is adopted.

Table 3.2 Changes to Multinet's proposed total unsmoothed revenue, when AER's draft decision WACC parameters are adopted

	Multinet'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	–124.63	–10.83[a]
DRP	3.92	3.76	–2.75	–0.24[b]
WACC	9.06	7.16	–129.80	–11.27[c]

Source: AER analysis.
Notes: The above scenario analysis was undertaken using the proposed Post-tax Revenue Model, with the formulae in the 'WACC' sheet corrected for the AER's approach.
(a) The AER has accepted Multinet'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, Multinet'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 Multinet's final averaging period. In contrast, the AER has not accepted Multinet'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 Multinet (for equity).
(b) The difference between the DRP proposed by Multinet 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 Multinet 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 $43.0 million ($nominal) or 3.7 per cent lower than Multinet'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 $114.2 million ($nominal) or 9.9 per cent lower than Multinet's proposed total revenue.

Table 3.3 Changes to Multinet's proposed total unsmoothed revenue, when AER's draft decision capex and opex forecasts are adopted

	Multinet's proposal ($million, nominal)	AER's draft decision ($million, nominal)	Revenue change ($million, nominal)	Revenue change (per cent)
Capex	409.6	194.7	–43.0	–3.7
Opex[a]	391.3	273.6	–114.2	–9.9

Source: AER analysis.
(a) Includes carryover amounts.

[40] Includes carryover amounts.

3.2 Impact on prices

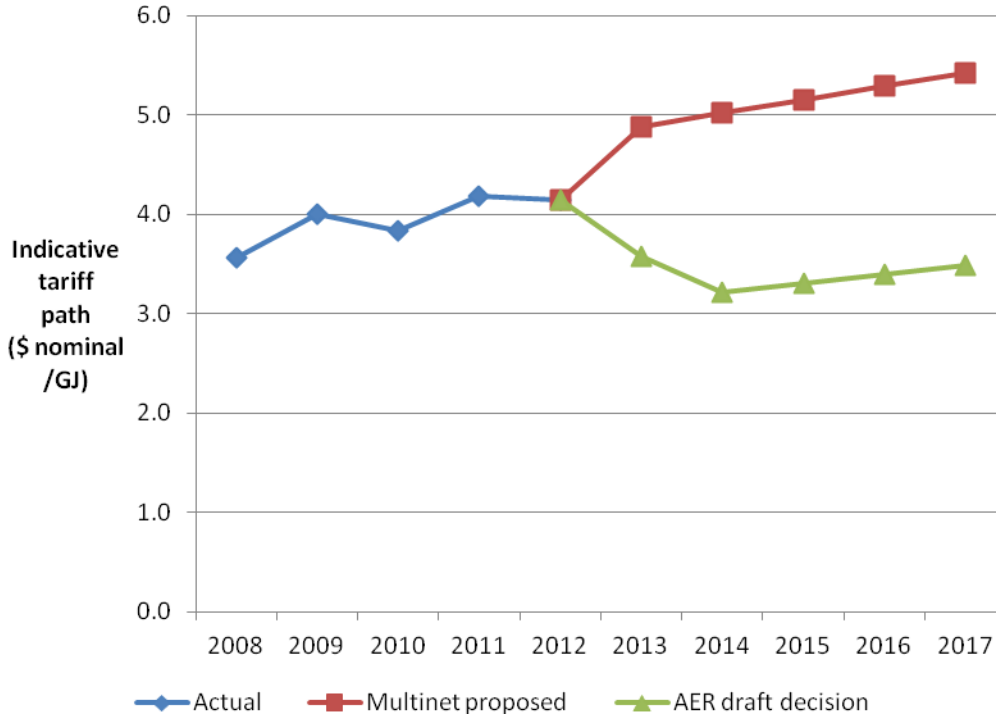
3.2.1 Reference tariffs

The effect of the AER's draft decision on Multinet's forecast reference tariffs for its reference services can be estimated by comparing these with Multinet's forecast reference tariffs. Using this approach the AER estimates that the draft decision will result in reference tariffs being 34.1 per cent lower on average over the 2013–17 access arrangement period in nominal dollar terms than Multinet'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 14.0 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 Multinet's proposal is shown in Figure 3.3.

Figure 3.3 Indicative reference tariff paths for Multinet's reference services from 2013 to 2017 ($/GJ, nominal)



Source: AER analysis.
Note: This chart shows an indicative tariff path, based on forecast revenues and forecast demand for Multinet's network. Multinet's actual tariffs will first be updated on 1 July 2013 to reflect the AER's decision. For this reason, the indicative 2013 tariff above is an average of the higher 2012 tariffs, and lower 2013 tariffs (from 1 July 2013 to 31 December 2013) to reflect the AER's decision. Because of this mid-year change of tariffs in 2013, the chart above shows a further reduction in indicative tariffs in 2014. However, on 1 January 2014, the AER's draft decision forecasts that actual tariffs will increase to reflect CPI.

3.2.2 Average retail customer bill

In Multinet's gas distribution network region, the proportion of the average residential gas bill attributable to gas distribution reference tariffs is estimated to be approximately 30 per cent.[41]

If the decrease in distribution tariffs from the AER's draft decision was passed through to consumers, a typical residential bill[42] could be expected to reduce by up to $8 ($nominal) per year on average. Multinet's proposal would have resulted in an average $18 ($ nominal) per annum increase.

The proportion of the average non-residential gas bill attributable to gas distribution reference tariffs in Multinet's region is estimated to be approximately 18 per cent. If the decrease in distribution tariffs from the AER's draft decision was passed through to consumers, a typical non-residential bill[43] could be expected to reduce by up to $30 ($nominal) per year on average. Multinet's proposal would have resulted in an average $66 ($ nominal) per annum increase.

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41 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 Multinet's approved tariffs for 2010 and 2011. The averages of the tariffs across Multinet's distribution zones applied in the AER's analysis uses a weighted average of volume by tariff class.

42 The AER has calculated a typical residential bill to be $1050 per year. This was calculated as the average standing offer contract for a customer consuming 60 GJ per annum. The average was calculated across each of Multinet'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.

43 The AER has calculated a typical non-residential bill to be $6084 per year. This was calculated as the average standing offer contract for a customer consuming 500 GJ per annum. The average was calculated across each of Multinet'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

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.[44] 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

Multinet 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. However, the AER does not consider that Multinet's qualification that the proposed reference services are likely to be sought by a significant part of the market when sought by a retailer is necessary or consistent with the NGR. Hence, the AER does not approve Multinet's proposed reference services. Multinet's proposed ancillary services are carried over from its current access arrangement. The AER considers that these services are likely to be sought by a significant part of the market.

[44] NGR r. 101(2).

5 Capital base

The capital base is the value of Multinet'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 Multinet can earn a rate of return. Further, Multinet 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 Multinet's proposed opening value for the capital base for each year of the previous (2008–12) and upcoming (2013–17) access arrangement periods. 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 Multinet's actual capex in 2007 is conforming capex and adjusting for differences between actual conforming capex and estimated capex for 2007.[45] 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.[46] 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 Multinet'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 Multinet'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.

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

46 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.

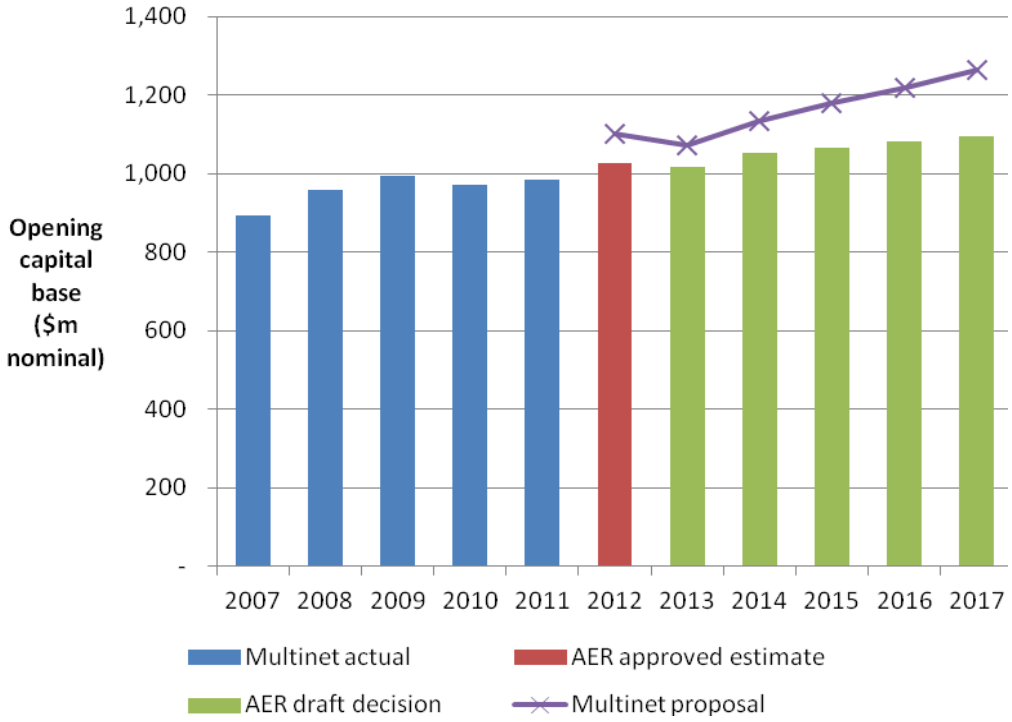
5.1 Draft decision

The AER does not approve Multinet's proposed opening capital base of $1072.9 million as at 1 January 2013 because it considers that some of Multinet's inputs into the capital base roll forward model do not comply with the NGR.[47] These include:

- Multinet's revised estimate for capex in 2012
- formulae and calculation errors in Multinet's proposed capital base models.

After adjusting these inputs, the AER has determined an opening capital base of $1016.5 million ($nominal) as at 1 January 2013, which is approximately $56 million less than that proposed by Multinet. Figure 5.1 shows Multinet's past actual opening capital base values compared to forecast values.

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



Source: AER analysis.

Table 5.1 shows the AER's draft decision on the roll forward of Multinet's capital base during the 2008–12 access arrangement period.

[47] NGR, r. 77(2).

Table 5.1 AER's draft decision on Multinet's capital base roll forward for the 2008–12 access arrangement period ($million, 2012)

	2008	2009	2010	2011	2012
Opening capital base	1082.1	1071.8	1033.1	1017.8	1025.8
Capex	41.2	39.1	40.7	64.5	47.6[a]
Less: customer contributions	2.4	25.9	2.4	2.2	2.0
Less: disposals	49.1	51.8	53.6	54.3	54.9
Less: depreciation	1071.8	1033.1	1017.8	1025.8	1016.5
Closing capital base					1016.5
Opening capital base at 1 January 2013					1016.5

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 $1097.0 million ($nominal) as at 31 December 2017. Table 5.2 sets out the projected roll forward of the capital base during the 2013–17 access arrangement period.

Table 5.2 AER's draft decision on Multinet's projected capital base roll forward for the 2013–17 access arrangement period ($million, nominal)

	2013	2014	2015	2016	2017
Opening capital base	1,016.5	1,052.1	1,065.9	1,079.6	1,094.2
Net capex	50.4	34.5	37.2	40.7	31.9
Less: depreciation	40.3	47.0	50.2	53.1	56.5
Indexation	25.4	26.3	26.6	27.0	27.4
Closing capital base	1,052.1	1,065.9	1,079.6	1,094.2	1,097.0

Source: AER analysis.

5.2 Summary of analysis and reasons

The AER approves some aspects of Multinet'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 (consistent with that adopted in the ESC's final decision for the 2008–12 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 Multinet'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 Multinet's approach in the following areas:

- Multinet's separate roll forward and depreciation models contained formulae errors. The AER has corrected the errors and adjusted Multinet's two separate models into a combined RFM for determining the opening capital base (including the opening tax asset base and depreciation calculations for the 2008–12 access arrangement period). Further, Multinet's capital base models incorrectly included the benchmark adjustment to 2007 capex and therefore overstated the opening capital base as at 1 January 2008.

- Multinet's 2008–12 access arrangement included a capex incentive scheme. However, Multinet's estimate of 2012 capex was not consistent with the ESC's capex incentive scheme. To make 2012 capex consistent with the ESC's capex incentive scheme the AER has replaced Multinet's estimated 2012 capex with benchmark (forecast) 2012 capex adjusted for actual growth.

- 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 Multinet's proposed forecast capex and depreciation. See overview sections 5 and 7 and attachments 3 and 5 for more on the AER's draft decision on these matters.

These adjustments add up to a $56 million reduction to Multinet's proposed opening capital base at 1 January 2013. The AER's draft decision is an opening capital base of $1016.5 million ($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 $1,097.0 million ($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.

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.

Multinet proposed a total forecast capex of $375.3 million ($2012) for the 2013–17 access arrangement period. The AER must accept Multinet's forecast capex if it is satisfied that it is conforming capex as specified in the NGR.[48]

In assessing Multinet's proposed capex for both the previous and upcoming regulatory access agreement periods, the AER reviewed Multinet's proposal and supporting material. This included information on Multinet's reasoning and, where relevant, business cases, audited regulatory accounts, and other relevant information. In addition, the AER engaged consultants to review aspects of Multinet'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 Multinet's proposed $231.7 million ($2012) total net capex for 2007–11 as conforming capex for the purpose of setting the capital base for 2007–11 (see overview section 4 and attachment 2).[49]

For the 2013–17 access arrangement period, the AER's draft decision is to approve $177.7 million ($2012) of Multinet's proposed $375.3 million ($2012) total capex.

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

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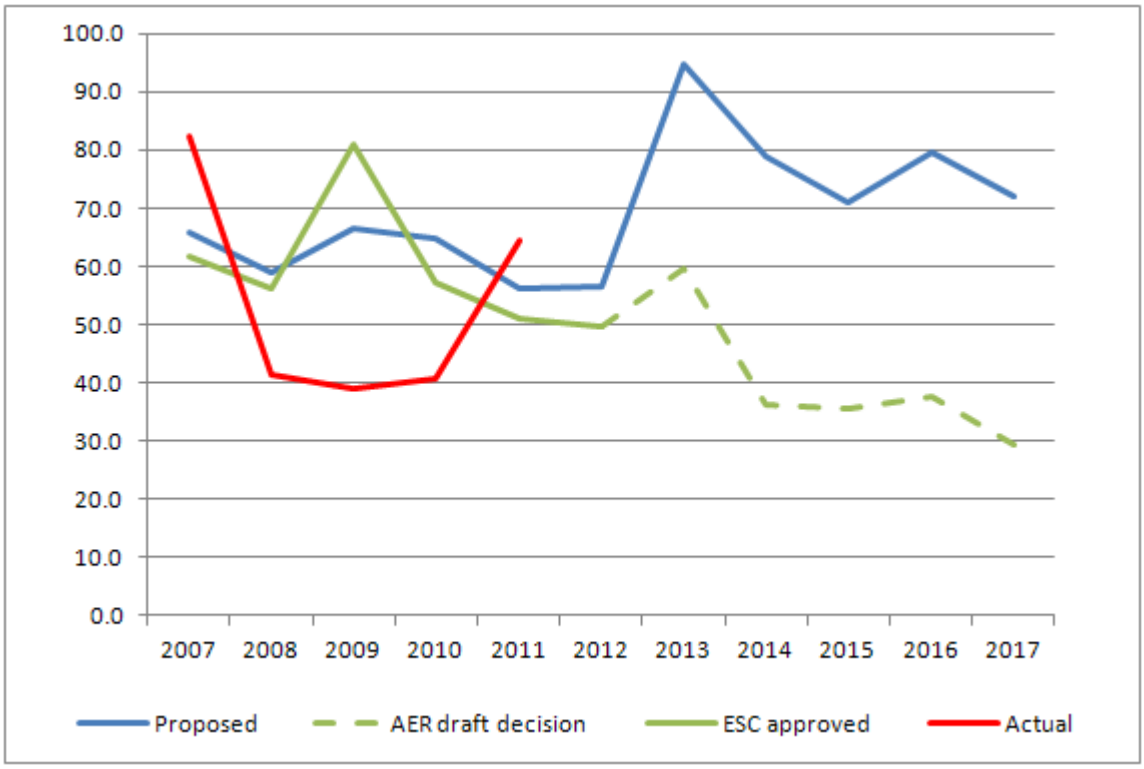
48 NGR, r. 40.

49 The AER has not assessed the 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 scheme. The AER has applied the transitional provision. This requires the AER to include in the capital base roll forward benchmark capex for 2012, adjusted for actual growth. At the next access arrangement review, the AER will assess whether Multinet's actual capex for 2012 is conforming capex under the NGR.

Figure 6.1 Comparison of Multinet's past and forecast total capex and AER draft decision ($million, 2012)



Source: AER analysis.

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

Table 6.1 Comparison of Multinet's proposed and the AER's draft decision on capex for the 2013–17 access arrangement period ($million, 2012)

Category	Multinet proposed	AER draft decision	Difference
Mains replacement	121.3	44.8	-63%
Residential connections	96.0	61.5	-36%
Commercial/industrial connections	12.7	4.2	-67%
Meters	14.0	11.2	-20%
Augmentation	35.1	7.4	-79%
IT	46.9	35.6	-24%
SCADA	7.4	1.0	-86%
Other	46.1	32.4	-30%
Internal direct overheads	16.4	–	-100%
Indirect overheads	–	–	0%
GROSS TOTAL	396.0	198.4	-50%
Customer contributions	20.7	20.7	0%
Government contributions	–	–	0%
NET TOTAL	375.3	177.7	-53%

Source: AER analysis

6.2 Summary of analysis and reasons

The AER has made a number of amendments to Multinet's capex proposals. The main amendments are discussed below. For more detail on the AER's draft decision on capex, see attachment 3.

Mains replacements

Distribution mains are the pipes that convey gas to service pipes at each end user point. Multinet proposed mains replacement capex of $121.3 million ($2012, direct costs) for four categories of mains replacement programs. The AER's draft decision makes amendments to each of these programs. The most substantial amendments include changes to:

- Low pressure (LP) mains replacement—the AER draft decision is to reduce Multinet's proposed scale of works and unit costs:
  - In the 2008–11 period Multinet met the relevant safety requirements despite replacing fewer LP mains than what it proposed and what was approved. The AER considers that these

volumes provide a robust benchmark for what a prudent and efficient service provider would undertake. Hence, the AER proposes to use historic volumes delivered over the 2008–11 period to set the scale of works for 2013–17. 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.

- For unit costs, Multinet applied a direct overhead uplift rate to account for overhead costs of contractors. The rate proposed by Multinet was higher than the AER's engineering consultant, Zincara, considered was industry standard practice. The AER therefore reduced this to the industry standard rate. In addition, as works with lower unit rates tend to be undertaken first, the unit rates have been adjusted in line with the volume adjustment discussed above.

- Large diameter cast iron mains replacement—Multinet proposed five replacement projects for the 2013–17 period but failed to demonstrate why these projects were necessary. Multinet also failed to demonstrate that the timing of these projects was prudent and that a proactive rather than reactive program was justified. For these reasons the AER does not approve this program of works in the 2013–17 period.

- Low pressure designated zones—Multinet proposed a program for dealing with LP zones that are not expected to be replaced in the next 20 years. Multinet has not justified why this program is necessary and why it has been proposed outside of the LP mains replacement program. Further, Multinet has not provided any evidence to demonstrate that the current practice for managing gas leaks is inadequate. For these reasons the AER does not approve this program of works in the 2013–17 period.

These amendments result in a 58 per cent reduction in Multinet's proposed mains replacement capex (from $121.3 million to $44.8 million).

Tariff V class customer connections

Tariff V class customer connections relate to residential and commercial/industrial customers who consume less than 10 TJ per year. To estimate the capex for tariff V class customer connections requires estimates of

- the number of new connections for this type of customer; and

- an estimate of the unit rate cost of each connection.

The number of connections is then multiplied by the unit cost to estimate the capex required.

To estimate the number of new connections for the 2013–17 period, Multinet used modelling undertaken by the NIEIR.[50] The NIEIR report did not include the method for forecasting gross customer connections from net customer connections. Multinet advised this was based on a ratio of the historical ratio of abolishments[51] to the total number of connections to forecast abolishments.[52] However, Multinet did not provide the AER with sufficient information to verify this ratio. Given this, the AER does not consider that Multinet's forecast of gross connections was arrived at on a reasonable basis. Instead, the AER proposes to use the 2012 gross connections number Multinet

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50 Multinet, AAI, p. 106.

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

52 Multinet, Response to Information Request 27, received 7/8/12, Question 1, p. 1.

provided in response to the AER's RIN and apply NIEIR's growth rates for 2013–17 to derive estimates of the gross connections numbers for 2013–17.

In relation to the unit cost of connections, Multinet stated that these were based on a recent tender process for the outsourcing of its network operations over 2013–17.[53] However, the AER was unable to reconcile the derived unit rates with the tendered unit rates. The AER instead considers that a weighted average of Multinet's 2008–12 unit rates should be used to estimate unit rates for residential and commercial connections for the 2013–17 period.

Meter replacement

The AER considers that Multinet's forecast volumes of meter replacement appear commensurate with its historical replacement rate. However, Multinet did not provide sufficient evidence for the AER to establish the reasonableness of Multinet's proposed unit rates. Accordingly, the AER considers that that an average of Multinet's historical expenditure over the 2008–12 period is the best forecast available in the circumstances.[54]

Augmentation

The AER considers that a number of augmentation projects proposed by Multinet are necessary in light of forecast connections growth to address a decline in gas pressure within constrained network areas. However, it does not approve Multinet's forecast input costs for these projects. As with Multinet's unit cost estimates for LP mains replacement, the AER has revised the direct overheads uplift rate down to the industry standard rate.

In addition, the AER draft decision is not to accept Multinet's proposed augmentation projects where either:

- the modelled pressure does not fall below the regulated minimum, meaning the augmentation is not necessary; or
- the solution does not address the capacity issue.

In sum, the AER approves augmentation capex of $7.4 million ($2012, direct costs) but does not approve augmentation capex of $27.6 million ($2012, direct costs).

IT

The AER engaged Nous Group to assess the prudency and efficiency of Multinet's IT programs. Using this advice, the AER's draft decision is to reduce the proposed risk and contingency allowance on a number of IT projects and the cost of the GIS Strategy and GE Smallworld Upgrade, and Data Warehouse Enhancement projects in line with industry standard costs.

Internal capitalised labour - direct overheads

Multinet proposed capitalising $16.4 million ($2012, direct cost) of its labour as direct capital overheads. Ninety-nine per cent of this relates to new staff positions. The AER understands these new positions reflect a shift from out-sourcing these functions to in-sourcing. The AER considers there

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53 Multinet, Access Arrangement Information, 30 March 2012, p. 108.

54 Escalated to $2012.

should be commensurate cost savings associated with no longer out-sourcing these functions which should at least offset the cost of the new staff positions. Hence, the AER does not approve Multinet's proposed capex for internal labour.

Other projects

Multinet proposed a number of other capex projects. The AER did not approve a number of these because the expenditure forecast by Multinet did not represent the best estimate possible in the circumstances. Other projects were not approved as Multinet did not demonstrate that these were necessary projects. Some projects were approved either in full or in part. In total, the AER approved $32.4 million of Multinet's proposed $46.1 of capex for other projects.

All of the above taken together results in a 52 per cent reduction to Multinet's proposed capex (from $375.3 million to $179.5 million). See attachment 3 for more on the AER's draft decision on forecast capex and reasons for this.

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.[55]

Multinet's return on capital building block is calculated by multiplying the rate of return with the value of Multinet's capital base. Consistent with Multinet'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 Multinet'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.[56]

Multinet'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. Multinet's proposed rate of return method, if also applied to market data from July-August 2011, would result in a proposed rate of 8.36 per cent.

Both Multinet'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. Multinet'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 Multinet with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects Multinet 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 Multinet'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
- adopting a market risk premium (MRP) of 6 per cent

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55 NGR, r. 87.

56 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 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 analysis[57]
- 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 Multinet'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 7.1 sets out the individual WACC parameters and consequent (indicative) rate of return determined by the AER.

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

Table 7.1 AER's draft decision on Multinet's rate of return (nominal)

Parameter	Multinet proposal	AER draft decision
Nominal risk free rate (cost of equity)	5.99%	2.98%
Nominal risk free rate (cost of debt)	3.99%	2.98%
Equity beta	0.8	0.8
Market risk premium	6%	6%
Debt risk premium	3.92%	3.76%
Gearing level	60%	60%
Inflation forecast	2.51%	2.5%
Gamma	0.25	0.25
Nominal post-tax cost of equity	10.80%	7.78%
Nominal pre-tax cost of debt	7.91%	6.74%
Nominal vanilla WACC	9.06%	7.16%

Source: ACCC decision; Multinet, *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).[58] However, the rate of return in this decision for Multinet 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 Multinet 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.[59] Hence, the AER and Multinet agree that this reduction reflects changing conditions in the market for funds. This provides the AER with a degree of comfort that a fall in the overall rate of return, in itself, is not unreasonable.

Multinet'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 Multinet 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

[58] 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).

[59] 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)

AER remains of the view that a 6 per cent MRP is commensurate with prevailing conditions in the market for funds.

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 Multinet'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. [60]

In this review, Multinet, 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, Multinet proposed adopting the extrapolated Bloomberg fair value curve to estimate the DRP.[61] This results in a DRP of 3.76 per cent based on current market data.[62] The other Victorian gas service providers also proposed this approach.[63] BHP Billiton considered this method was appropriate but also considered there was merit in the AER exploring alternative methods.[64]

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).[65] The EUCV noted this resulted in a DRP similar to the ERA's approach.

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60 Reserve Bank of Australia, *Letter to the ACCC: The Commonwealth Government Securities Market*, 16 July 2012; Australian Treasury and Australian Office of Financial Management, *Letter to the ACCC: The Commonwealth Government Securities Market*, 18 July 2012; M. McKenzie, and G. Partington; *Report to the AER: Review of regime switching framework and critique of survey evidence*, 7 September 2012; M. McKenzie and G. Partington, *Report to the AER: Review of NERA report on the Black CAPM*, 24 August 2012; M. Lally, *The cost of equity and the market risk premium*, 25 July 2012; M. Lally, *The risk free rate and the present value principle*, 22 August 2012.

61 Multinet, *Access arrangement submission: Part A*, 30 March 2012.

62 This estimate reflects the paired bonds sample proposed by Multinet.

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

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

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

In the ATCO and DBNGP matters, the Tribunal upheld the use of the 'bond yield' approach adopted by the ERA.[66] Under this approach the DRP is estimated by averaging observed bond yields that meet certain criteria.[67] The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.[68] The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.[69] Such a weighted average was implemented by the ERA on remittal.[70] If the bond-yield approach (with the weighting method adopted in the ERA's re-determination) was applied to Multinet, the DRP would be 2.72 per cent.[71]

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 Multinet'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.[72]

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.[73]

Taking Multinet's proposal and the submissions from stakeholders together, the AER considers that the rate of return in this draft decision (subject to updating) satisfies the criterion of the NGR.[74]

7.2.1 Risk free rate

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

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66 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.

67 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+).

68 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.

69 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.

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

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

72 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.

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

74 R. 87, NGR.

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)[75]
- the RBA advised 'CGS yields are the most appropriate measure of a risk free rate in Australia'.[76]

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

However, Multinet 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).
- 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.[77]
- This approach provides an unbiased method for determining the risk free rate.

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

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

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

- Advice from Professor McKenzie and Associate Professor Partington, and from Associate Professor Lally supported the use of a prevailing risk free rate.[78]

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.[79] 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.[80]

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

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78 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.

79 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.

80 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 Multinet's assets over the 2013–17 access arrangement period. It is used to determine the depreciation allowance in Multinet's total revenue requirement under the building block model. Multinet'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 Multinet 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 services[81]
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets[82]
- 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 assets[83]
- so that (subject to the rules about capital redundancy), an asset is depreciated only once[84]
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.[85]

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 period,[86] the NGO and the revenue and pricing principles.[87]

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

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81 NGR, r. 89(1)(a).
82 NGR, r. 89(1)(b).
83 NGR, r. 89(1)(c).
84 NGR, r. 89(1)(d).
85 NGR, r. 89(1)(e).
86 NGR, schedule 1, r. 5(1)(d).
87 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 Multinet's total regulatory depreciation allowance over the 2013–17 access arrangement period is $114.3 million ($nominal) as shown in Table 8.1. This represents a reduction of $66.7 million ($nominal) or 36.9 per cent of Multinet's proposed total regulatory depreciation allowance.

Table 8.1 AER's draft decision on Multinet's depreciation allowance ($million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	40.3	47.0	50.2	53.1	56.5	247.0
Less: indexation on opening capital base	25.4	26.3	26.6	27.0	27.4	132.7
Regulatory depreciation	14.9	20.7	23.5	26.2	29.1	114.3

Source: AER analysis.

8.2 Summary of analysis and reasons

The AER does not approve Multinet's proposed regulatory depreciation allowance of $181.0 million ($nominal) for the 2013–17 access arrangement period. The AER's draft decision is to make amendments in the following areas:

- The AER does not approve Multinet's proposed (accelerated) depreciation allowance for forecast redundant assets for the 2013–17 access arrangement period. During the 2008–12 access arrangement period, Multinet received (accelerated) depreciation allowance for assets that it proposed to replace during the 2008–12 access arrangement period. However, during the period it replaced less assets than the ESC forecast. That is, Multinet has received (accelerated) depreciation for assets that have not been made redundant and are still in service. Due to the AER's adjustment to Multinet's forecast replacement capex, Multinet will replace fewer assets in the next period than is required to 'catch up' with the assets that are still in service but for which it has already received (accelerated) depreciation in the 2008–12 access arrangement period.[88] Therefore, the AER does not approve the proposed depreciation allowance for forecast redundant assets. The AER considers the proposed allowance does not satisfy the NGR requirement because it does not reflect the economic life (or any changes in the economic life) of the assets expected to be made redundant in the 2013–17 access arrangement period.[89]

- The AER considers that the 'Land & buildings' asset class should be split into two separate 'Land' and 'Buildings' asset classes from 1 January 2013. This is because land is a non-depreciating asset. The AER considers that the 'Buildings' asset class should be assigned a standard economic life of 50 years[90], and the 'Land' asset class should not be assigned a standard economic life reflecting the non-depreciating nature of the asset.

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88 The AER's adjustment on forecast capex means that by the end of 2017, Multinet will still have received accelerated depreciation for 77 km of low pressure distribution mains, which are still in service.

89 NGR, rr. 89(1)(b), 89(1)(c).

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

- The AER considers that Multinet's proposed standard economic life of 7 years for the 'SCADA' asset class is too short, when compared to the standard economic lives for the ‘SCADA’ asset class approved in previous AER decisions. The AER has determined a standard economic life of 15 years is more appropriate.

- The AER identified a number of errors in the way Multinet calculated its remaining economic lives for depreciating existing assets. The AER requires that Multinet adopt the AER's calculation of remaining economic lives. The AER's adjustments correct the errors in Multinet's calculations, and update the remaining economic lives to reflect the amended opening capital base as at 1 January 2013. The AER also made adjustments to the remaining economic lives for the 'SCADA' and 'IT' asset classes.

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

9 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital costs incurred in the provision of reference services.[91] Opex incorporates labour costs and other non–capital costs associated with providing reference services.

The AER is required to assess Multinet'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.[92]

The regulatory regime provides incentives for Multinet to deliver its required services at least cost. In particular, if Multinet 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.

9.1 Draft decision

The AER's draft decision is to approve $270.3 million ($2012) of Multinet's $362.7 million ($2012) forecast of opex for the 2013–17 access arrangement period. This reduction of $92.4 million ($2012) reflects the AER view that a number of elements of Multinet's forecast opex do not comply with the criteria governing opex or the criteria for forecasts and estimates.[93] This is discussed in more detail in the following section.

Table 9.1 shows how Multinet's proposed opex compares with the AER's draft decision on opex.

Table 9.1 Multinet proposed and approved opex ($million, 2012)

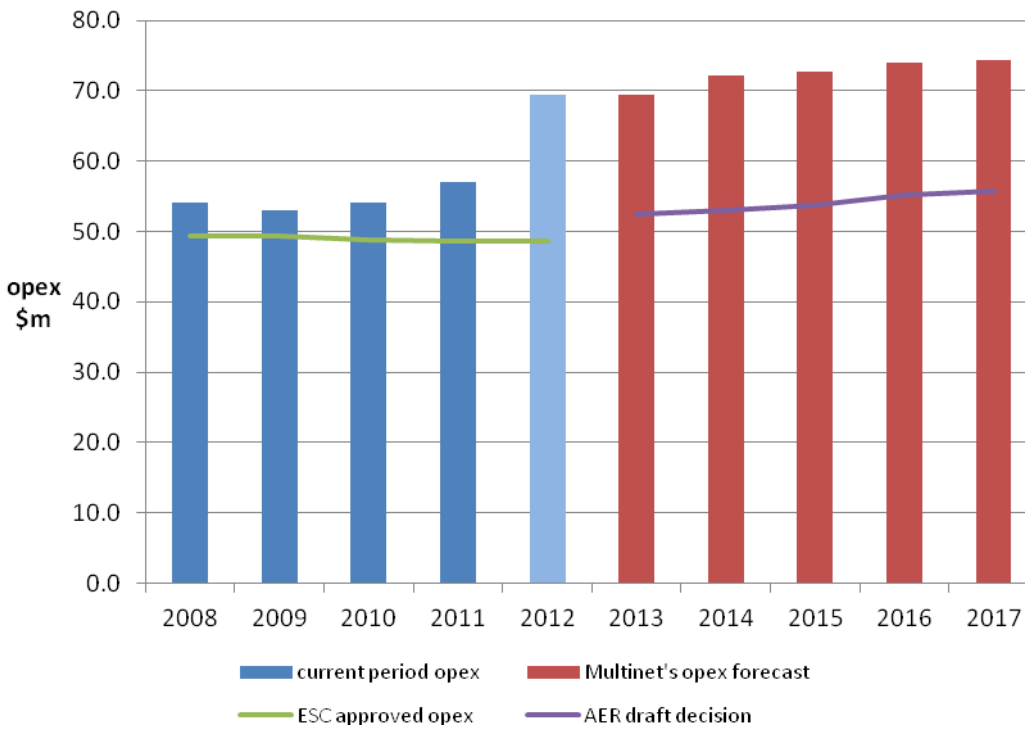
	2013	2014	2015	2016	2017	Total
Multinet proposal	69.4	72.2	72.7	74.1	74.4	362.7
AER draft decision	52.4	53.1	53.7	55.3	55.7	270.3
Difference	-16.9	-19.1	-18.9	-18.8	-18.7	-92.4

Source: AER analysis

Figure 9.1 shows how the AER's draft decision for opex compares to Multinet'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, Multinet's proposed total opex represents a 22 per cent real increase on actual expenditure in the current period.

91 NGR, r. 69.
92 NGR, r. 74.
93 NGR, r. 91, r. 71.

Figure 9.1 Comparison of Multinet's historical and forecast opex, and AER draft decision ($million 2012)[94]



Source: Multinet's RIN submission.

9.2 Summary of analysis and reasons

Multinet forecast its opex using a bottom-up forecasting approach whereby it has forecast the costs of each of the services it will provide in the 2013–17 access arrangement period. Multinet considers the methodology typically used in regulatory decisions, which bases forecast opex on historical opex, would be inappropriate because of a change in its business model.[95]

The AER first assessed whether or not to accept Multinet's forecast opex against the relevant NGR and NGL criteria. The AER concluded that Multinet's forecast does not satisfy the relevant criteria.

The AER then made a decision about what forecast of opex to apply in place of Multinet's forecast. The AER has forecast opex using a base year approach, which is based on the costs incurred by Multinet in 2011, adjusted for labour cost escalation, growth and scope changes.

9.2.1 Stage 1 of the AER assessment

The AER's draft decision is not to accept Multinet's forecast opex for the following reasons:

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94 Note 2012 is a forecast. Multinet has forecast it will incur $12.7m of opex in 2012 related to metering that it does not forecast to be recurrent expenditure.

95 Multinet, Access Arrangement Information, 30 March 2012, p. 63.

- Multinet's bottom-up forecast does not reflect a forecast that has been arrived at on a reasonable basis or represents the best forecast possible in the circumstances.[96] In particular, Multinet's in-house cost forecasts are not substantiated. As Multinet does not undertake many of these services currently, Multinet has constructed many of its in-house forecasts without historical costs as a reference point and has not provided detailed information about how a forecast of each cost item has been arrived at and/or why this forecast is prudent and efficient.

- A comparison of historical opex to forecast opex demonstrates Multinet is forecasting a rise in opex in the 2013–17-access arrangement period relative to opex it incurred in the 2008–12 access arrangement period. The AER is not satisfied based on the evidence available to it that there are credible factors likely to explain this forecast increase. As such, relative to Multinet's historical opex, Multinet's forecast of opex is not a forecast of opex that satisfies rr. 74(2) or 91 of the NGR.

- Multinet's bottom-up forecasting methodology is inconsistent with the operation of the opex incentive mechanism that applies to Multinet in the 2008-12 access arrangement period. This is contrary to the transitional provisions under the NGR.[97]

To further test Multinet's proposal the AER analysed benchmarking studies provided by Multinet and undertook its own benchmarking. The results of the benchmarking studies do not suggest that Multinet's historical opex is too low compared to its closest comparators—SP AusNet and Envestra. On some benchmarking indicators, a large rise in Multinet's opex over the 2013–17 access arrangement period relative to its historical costs suggests the gap would widen between Multinet and SP AusNet and Envestra. This suggests that a large rise in opex over the 2013–17 access arrangement period relative to Multinet's historical opex would not reflect the actions of a prudent service provider acting efficiently to achieve the lowest sustainable costs of delivering pipeline services.[98]

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

9.2.2 Stage 2 of the AER's assessment

The AER's second stage of the assessment process was to consider what forecast of opex to use instead of Multinet's proposal. The AER has used a base year approach to estimate Multinet's forecast opex.

Under a base year approach, forecast opex is based on the historical costs incurred in a recent regulatory year. This is then adjusted for forecast trends and other changes in a business's circumstances beyond its control such as the forecast cost of new regulatory obligations, forecast labour costs and increased customer growth.

To the extent that a regulated business forecasts that changes will lead to increases in efficient costs, the regulator can adjust base year opex with an incremental increase the base year. Any change in costs in relation to historical costs can be addressed under this forecasting methodology, regardless of the circumstances. Therefore, the AER is satisfied that a base year approach is appropriate forecasting methodology, regardless of Multinet's business restructure.

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96 NGR, r. 74(2).
97 NGR, Schedule 1, Clause 2, 5(1)9a)
98 NGR, r. 91(1).

As regulated businesses face strong incentives to undertake opex efficiently, actual opex should reveal the efficient amount opex for that year. Historical costs (i.e. the base year) therefore provide a reliable method to forecasting opex.

The AER is also satisfied that a forecast of opex estimated using a base year approach in combination with an opex efficiency carryover mechanism promotes continuous incentives to achieve efficiency gains. The AER implements this approach across the regulated energy sector. This approach is also consistent with the operation of Multinet's existing opex incentive mechanism under its 2008-12 Access Arrangement. The AER considers that departing from a base year estimate would change the relative rewards and penalties for achieving efficiency gains across regulatory periods. This would promote incentives for perverse outcomes across the regulated energy sector by providing an incentive for regulated businesses across the regulated energy sector to defer efficiency gains or shift expenditure into the base year.[99]

Details of the AER's base year estimate are outlined below.

Base year

The AER considers that actual opex incurred in 2011 is an appropriate basis for forecasting annual efficient opex for the 2013–17 access arrangement period. This year is chosen as it is the most recent year for which audited data is available. Further, a base year of 2011 will ensure symmetry with Multinet's existing opex incentive mechanism.[100]

The AER made some adjustments to opex incurred by Multinet in 2011 to estimate base year opex. These adjustments removed a number of opex items that will not be incurred in the 2013–17 access arrangement period.

Cost trends and step changes

In line with the AER's usual approach, it also considered whether to include any cost trends or step change adjustments to the base year. In considering this, the AER considered Multinet's forecast cost drivers.[101]

The AER provided an additional opex allowance for forecast changes in:

- Labour costs—the AER has accepted a smaller increase than that Multinet indicated was reflected in its forecasts (see appendix D for more on how the AER has determined labour cost escalators).
- Output growth—the AER has accepted a smaller increase than Multinet indicated was reflected in its forecasts (see attachment 6 for more information).
- Scope (usually called step changes)—this provides for additional funding where Multinet faces a new requirement or change in circumstance requiring it to undertake additional expenditure that

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99 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.

100 That is, to carryover efficiency losses from the 2008-2012 access arrangement period.

101 Multinet provided these in response to a request for information about the factors driving their proposed increase in forecast opex compared to historic opex. (see: Multinet, *Response to AER information request 10*, 20 June 2012, p. 22; *Response to AER information request 38*, 2 August 2012.)

was not accounted for in the base year level of opex. The AER's estimate of opex included some of the scope changes that Multinet indicated were reflected in its bottom up forecast. Some were approved on a reduced basis. Other scope changes Multinet indicated were included in its forecasts were not included in the AER's estimate as Multinet had not demonstrated why the opex was prudent and efficient.

The AER's draft decision on Multinet's opex for the 2013–17 access arrangement period is provided in table 9.2 below.

Table 9.2 AER draft decision on Multinet's opex ($million 2012)

	2013	2014	2015	2016	2017
Base	51.6	51.6	51.6	51.6	51.6
Labour	0.5	0.9	1.4	1.8	2.3
Scope	-0.3	-0.3	-0.3	0.7	0.5
Growth	0.2	0.3	0.5	0.7	0.8
Debt raising costs	0.6	0.6	0.6	0.5	0.5
Total	52.4	53.1	53.7	55.3	55.7

Source: AER analysis.

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 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 Multinet's current access arrangement are properly reflected in its total revenue.[102]

The AER must also consider whether the incentive mechanism proposed by Multinet will encourage efficiency in the provision of services by the service provider and is consistent with the revenue and pricing principles.[103]

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 Multinet's proposal to disregard the negative carryover accrued in the 2008–12 access arrangement period. The NGR transitional rules require that the AER ensure the revenue calculations for the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the incentive mechanism.[104] The AER has calculated that Multinet accrued a total carryover of –$16.7 million ($2012) during the 2008–12 access arrangement period (Table 10.1).

Table 10.1 AER draft decision on Multinet carryover from the 2008–12 access arrangement period ($million, 2012)

	2013	2014	2015	2016	2017	Total
Multinet proposed	–	–	–	–	–	–
AER draft decision	–3.8	–2.9	–5.0	–4.9	–	–16.7
Difference	–3.8	–2.9	–5.0	–4.9	–	–16.7

Source: Multinet Access Arrangement Information, p. 195, Multinet PTRM, AER analysis.

102 NGR, Schedule 1, clause 5(1)(a).
103 NGR, rule 98.
104 NGR, schedule 1, clause 5(1)(a).

The AER does not approve Multinet'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.[105]

The AER considers Multinet'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 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

Carryover from the 2008–12 access arrangement period

Multinet calculated a total carryover of –$61.4 million from its opex and capex incentive mechanisms for the 2008–12 access arrangement period. Multinet proposed that none of this amount should be carried over because:

- it considered the opex benchmarks were unattainable
- it considered that its circumstances were similar to United Energy's when the AER decided not to carryover United Energy's opex efficiency losses to its 2011–15 regulatory control period.[106]

The AER considers Multinet did not calculate the carryover consistent with its 2008–12 access arrangement. Using the approach set out in Multinet's access arrangement the AER recalculated a total carryover of –$16.7 million.

In deciding whether this efficiency loss should be carried over the AER first assessed Multinet's claim that the opex benchmarks were unattainable. In considering Multinet's opex for the 2008–11 period, the negative opex carryover is largely driven by an efficiency loss in 2011. The AER considers this is primarily due to Multinet's decision to restructure its operations in 2011. The AER does not consider that this demonstrates that the opex benchmarks were unattainable.

The AER also reviewed Multinet's proposal in light of United Energy's circumstances. The AER forecast United Energy's opex for 2011–15 based on its contractor's costs, including the loss, not the costs actually incurred by United Energy. To use these same costs to calculate United Energy's carryover would have penalised United Energy for an increase in its contractor's costs, not its own. As this would be an anomalous outcome, the AER exercised its discretion not to apply the negative carryover amounts.[107]

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

106 Multinet, *Gas Access Arrangement Review January 2013–December 2017 Access Arrangement Information*, 30 March 2012, pp. 176–177.

107 The AER's reasons for setting aside the incentive mechanism for United Energy are in AER, *Draft decision – Victorian electricity distribution network service providers distribution determination 2011–2015*, June 2010, pp. 560–562; AER, *Final decision – Victorian electricity distribution network service providers distribution determination 2011–2015*, October 2010, pp. 594–595.

There are some similarities between Multinet's circumstances and those of United Energy. However, the AER's draft decision does not calculate Multinet's opex forecasts based on its contractors costs and thus there is no anomalous outcome. Further, as United Energy was only subject to an opex incentive mechanism, this case has no application to Multinet's capex efficiency carryover.

Consistent with the operation of the incentive mechanism in Multinet's access arrangement and the transitional provisions specific to the NGR, the AER considers the negative amounts should be carried forward to the 2013–17 access arrangement period to ensure effective incentives to pursue efficiencies consistent with the RPP.

Opex incentive mechanism

The AER accepts Multinet's proposal to apply an incentive mechanism to opex. However, there are a number of aspects of Multinet'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 (see attachment 7).

Capex incentive mechanism

Multinet also proposed to maintain its ESC approved incentive mechanism for capex for the 2013–17 access arrangement period. This would allow Multinet 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).

Multinet'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 with an equal incentive to maintain and improve service levels. 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.[108]

In addition, Multinet proposed a carryover scheme where capex benchmarks are adjusted to reflect the volume of work undertaken. This would remove the incentive provided by cumulative carryover schemes to defer capex inappropriately, at the expense of service levels. While adjusting capex benchmarks to reflect actual volumes reduces the incentive to defer capex inappropriately, not all capex is volume adjusted.

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

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[108] 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 Multinet over the 2013–17 access arrangement period.

Multinet adopted the post-tax framework to derive its revenue requirement for the 2013–17 access arrangement period.[109] 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 Multinet's business. The AER modelled Multinet's tax expenses over the access arrangement period using a benchmark of 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 Multinet's total revenue.[110]

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 Multinet's corporate income tax allowance allowance over the 2013–17 access arrangement period is $27.7 million ($nominal), a reduction of $26.8 million ($nominal) or 49.2 per cent of Multinet's proposal (see table 11.1). Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 31.96 per cent for this draft decision.

Table 11.1 AER's draft decision on corporate income tax allowance for Multinet ($million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	6.7	6.1	6.6	8.0	9.6	36.9
Less: value of imputation credits	1.7	1.5	1.6	2.0	2.4	9.2
Net corporate income tax allowance	5.0	4.6	4.9	6.0	7.2	27.7

Source: AER analysis.

109 Multinet, *Post tax revenue model, March 2012.*
110 NGR, r. 76(c).

11.2 Summary of analysis and reasons

The AER accepts most of Multinet's methods for calculating its corporate income tax allowance. However, the AER adjusted several of Multinet'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 2007–12 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).
- The tax depreciation approach for the 'Land & buildings' asset classes in group 7 tax assets:
  - 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.

12 Demand forecasts

The NGR requires an access arrangement to include a forecast of pipeline demand (driven by gas 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 Multinet's reference tariffs.

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 Multinet'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's draft decision is to approve the proposed demand forecasts under r. 74(2) of the NGR. The AER considers that the forecasting approach is arrived at on a reasonable basis. The AER also considers that the assumptions and data sets used by Multinet result in demand forecasts that are arrived at on a reasonable basis and represent the best forecasts possible in the circumstances.[111]

Multinet forecasts relatively flat demand for tariff V residential and non-residential customers[112] and slightly declining demand for tariff D customers.[113]

12.2 Summary of analysis and reasons

The AER's draft decision is to approve Multinet's demand forecasts and forecasting approach. In making its draft decision the AER assessed the information provided in Multinet's access arrangement proposal and information provided in response to AER information requests.

For more on Multinet's demand forecasts, forecasting approach and the AER's draft decision on Multinet's demand, see attachment 9.

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111 NGR, r. 74(2)(b).

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

113 Tariff D customers are larger customers.

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.[114]

The AER is required to assess Multinet's proposed reference tariffs against the provisions established by rules 93 and 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 Multinet'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 Multinet's proposed structure of reference tariffs for the 2013–17 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 attachment 10 of this draft decision to reflect the AER's draft decision on forecast total revenue and forecast demand.

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[114] NGR, r. 72(1)(j), r. 95(1) and r. 95(3)(a).

13.2 Summary of analysis and reasons

Multinet proposed to maintain the current structure of its reference tariffs for the 2013–17 access arrangement period.[115] The proposed tariff classes directly reflect Multinet's proposed reference services.[116]

The AER's draft decision is to approve Multinet's proposed structure for reference tariffs. However, the AER's draft decision amends Multinet's proposed forecast total revenue (see chapter 3). Reference tariffs must be amended to reflect these changes.

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

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115 Multinet, Gas access arrangement review January 2013–Decmber 2017, Access arrangement information, 30 March 2012, p. 211.

116 Multinet, Gas access arrangement review January 2013–Decmber 2017, Access arrangement information, 30 March 2012, pp. 183–185.

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

- the proposed magnitude and level of the rebalancing constraint,[117] the variation process and certain elements in the cost pass through tariff variation mechanism are not consistent with r. 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 force majeure events must be removed from the cost pass through mechanism
- 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 to provide for related opex once the NECF commences 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.

[117] 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 a number of amendments to Multinet's proposals regarding the tariff variation mechanism. One amendment is to update the initial reference tariffs and X factors to reflect the AER's draft decision on forecast total revenue. This will ensure revenue equalisation. Other amendments are discussed below.

Rebalancing constraint

The AER's draft decision is not to accept Multinet's proposal to increase its rebalancing constraint from 2014. 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 Multinet's ability to achieve to cost reflective pricing in previous regulatory periods. Further, a higher rebalancing constraint could lead to increased price volatility and potential price shocks. This could create uncertainty for downstream users which could be detrimental to the efficient investment in and utilisation of pipeline assets. In sum, the AER considers that the current magnitude of rebalancing constraint in combination with the cost pass through provisions provides Multinet with a reasonable opportunity to recover at least its efficient costs, consistent with the RPP.

Cost pass through events

The AER requires two of Multinet's proposed pass through events to be removed:

- Removal of the proposed 'financial failure of a retailer event'—the AER considers that Multinet can mitigate this risk by agreeing appropriate prudential requirements with users. Multinet 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 Multinet with adequate protection against the risk of a retailer failing.

- Removal of the proposed 'force majeure event'—Multinet's proposed force majeure event is not sufficiently specific and is not defined with reference to a material increase or decrease in costs to the service provider. The AER considers that the inclusion of a 'terrorism event' or a 'natural disaster event' could better meet Multinet's objectives while being consistent with the NGR.

Further, two new cost pass through events are proposed, these include:

- A 'low pressure mains replacement event' to allow Multinet to undertake additional low pressure mains replacement where it has exceeded the AER's approved volumes. This relates to the AER's draft decision on capex (chapter 6 and attachment 3).

- A 'NECF event' to allow Multinet to recover any expenditure it incurs in implementing the NECF when it commences in Victoria. The NECF has not yet commenced in Victoria and there is uncertainty about its commencement date. The AER did not approve NECF related opex for the 2013–17 period but considers that Multinet should be able to recover these costs once the NECF commences in Victoria. This pass through allows for this.

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

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 Multinet'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's 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 Multinet's terms and conditions. The AER accepts Multinet'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 Multinet's extensions and expansions policy. The AER requires Multinet 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 and terms and conditions for changing receipt and delivery points. The AER proposes to accept Multinet's proposal in relation to queuing arrangements and review dates.

15.2 Summary of analysis and reasons

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

The AER sought to facilitate increased engagement between Multinet and retailers on Multinet's proposed terms and conditions. The objective was to foster agreement between Multinet 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/4799

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. The AER subsequently wrote to Multinet 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 Multinet 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 Multinet's access arrangement, the AER has taken into account the interlinkages between the building blocks and between the elements of Multinet's access arrangement proposal. Some examples of interlinkages between these 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 (gamma) 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 Multinet'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 reduce the amount of maintenance opex required) (see attachments 3 and 6).

Access Arrangement draft decision

Multinet Gas (DB No.1) Pty Ltd

Multinet Gas (DB No.2) Pty Ltd

2013–17

Part 2

Attachments

September 2012

AUSTRALIAN ENERGY REGULATOR

Shortened forms

Shortened form	Full title
2008-12 access arrangement	Access arrangement for Multinet 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 Multinet effective from 1 January 2018 to 31 December 2022 inclusive
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
access arrangement information	Multinet, Access arrangement information, 30 March 2012
access arrangement proposal	Multinet, 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
Multinet	Multinet Gas (DB No.1) Pty Ltd (ACN 086 026 986), Multinet Gas (DB No.2) Pty Ltd (ACN 086 230 122)
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
WACC	weighted average cost of capital

Contents

1 Pipeline Services

The NGR includes a number of requirements with respect to:

- identifying the pipeline which the access arrangement relates to[1] and
- the services which Multinet proposes to offer to provide by means of that pipeline.[2]

1.1 AER's draft decision

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

The AER approves Multinet's proposed ancillary reference services but does not approve Multinet's proposed reference services.

1.2 Multinet's proposal

Multinet's access arrangement proposal describes the type and nature of pipeline services to be provided by its Victorian gas distribution network. This includes references services (services that are likely to be sought by a significant part of the market) and non reference services. Multinet's access arrangement sets out a single reference service and four ancillary reference services.

1.3 Assessment approach

In its access arrangement proposal Multinet is required to specify all reference services.[3] A reference service is a pipeline service that is likely to be sought by a significant part of the market.[4] A pipeline service is a:

- service provided by means of a pipeline, including a:
  - haulage service
  - service facilitating the interconnection of pipelines
- a service ancillary to one of these services.[5]

A reference service must also be consistent with the NGO.[6]

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:

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1 NGR, r. 101(1).
2 NGR, r. 48(1)(b).
3 NGR, r. 48(1)(c), NGR, r. 101(1).
4 NGR, r. 101(2).
5 NGL, s. 2.
6 NGR, r. 100(a).

- 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.[7]

1.4 Reasons for decision

Identification of the pipeline

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

Clause 1.2 of Multinet's access arrangement proposal states that 'the Access Arrangement as revised comprises this document together with the plans of the Distribution System lodged with the Regulator' and that 'A description of the Distribution System can be inspected at www.multinetgas.com.au'. The Access Arrangement Information lodged by Multinet with the access arrangement proposal contains a description of Multinet's distribution network.[8]

Description of the pipeline services

The AER considers that the pipeline services that Multinet proposes to offer are adequately described.[9]

Multinet has described the pipeline services being offered as haulage reference services and ancillary reference services available to users and prospective users of its distribution system. These services will be offered at the reference tariffs in accordance with its reference tariff policy set out in its proposal.[10]

Specification of the reference service

The glossary to Multinet's access arrangement proposal defines Haulage Reference Services as including the injection, conveyance and withdrawal of gas form transfer and distribution supply points (as applicable).

Schedule 1 of Multinet's access arrangement proposal defines Ancillary Reference Services as meter and gas installation tests, disconnection, energisation and reconnection and special meter readings.

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7 Such as queuing requirements, extension and expansion requirements, and capacity trading requirements.
8 Multinet, *access arrangement information*,30 March 2012, s.1.2.
9 In accordance with NGR 48(1)(b).
10 Multinet, *Access arrangement proposal, Part A–Principal arrangements*, 30 March 2012, clause 5.1.

Multinet states that the Reference Services are likely to be sought by a significant part of the market when sought by a Retailer. The AER considers that it is unnecessary to include the qualification 'when sought by a retailer'. The AER considers that the proposed Reference Services are likely to be sought by a significant part of the market, regardless of the market activity of the access seeker.

Reference service

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

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

However, as discussed above, the AER does not consider it necessary to contain the qualification that the Reference Services are likely to be sought by a significant part of the market, when sought by a retailer. The AER considers that the focus of r. 101(2) is on whether a significant part of the market is likely to seek the service, not whether the person seeking the service belongs to a class that forms a significant part of the market.

The AER's draft decision is based on the current definitions of a reference service and rebateable service. These definitions are currently the subject of a proposed rule change.[12] The AEMC is presently considering whether any rule change is to take effect for the purposes of the review of the Victorian gas access arrangements for 2013-17.[13] In the event that the AEMC determines in its 1 November 2012 final rule determination that the rule change is to apply to the current review, Multinet may need to take this into account when revising its proposal if the rule change affects its proposal.

Ancillary reference services

The AER considers that the proposed ancillary reference services are likely to be sought by a significant part of the market. It is possible that there are other services that may also be sought by a significant part of the market. However, the submissions the AER received did not address whether these services are services that are likely to be sought by a significant part of the market. As a result, there is insufficient evidence before the AER to find that these services are ancillary reference services.

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11 Multinet, *Access arrangement proposal: Part A–Principal arrangements*, clause 5.1.1.

12 On 5 August 2011 the AER submitted a rule change proposal to amend the definition of a reference service and rebateable service in the NGR. The AEMC released its draft rule determination in March 2012. On 27 July 2012, the AEMC extended the time for the making of its final rule determination to 1 November 2012.

13 On 13 September 2012, the AEMC released a Consultation Paper on the rule change which specifically invites comments on "the operation and application of the final rule to access arrangement reviews already in progress" and the need for "transitional arrangements if the final rule was to apply to access arrangements that are currently being assessed by the AER" (pg 26). See: http://www.aemc.gov.au/gas/rule-changes/open/reference-service-and-rebateable-service-definitions.html

The ancillary reference services proposed by Multinet are largely consistent with those in its current access arrangement.

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 other than 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 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 distributors and Origin would propose 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 Multinet's access arrangement proposal does not extend to such services.

Multinet 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 Connection, Tariff L Connection and Tariff V Complex Connection.[19]

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

15 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.

16 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

17 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, page 3.

18 Multinet, *Access arrangement proposal*, *Part A - Principal arrangements*, 30 March 2012, clause 5.1.3.

19 Multinet, *Access arrangement proposal*, *Part A - Principal arrangements*, 30 March 2012, clause 5.1.3.

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.[20] If a service is unlikely to be sought by a significant part of the part 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 one 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 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.[21]

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 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 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.

1.4.2 Revisions

Revision 1.1: amend clause 5.1.1 as follows:

Delete 'when sought by a retailer' from the last line in the first paragraph.

[20] NGR, r. 48(1)(c); NGR, r. 101(2); NGL s. 2.

[21] AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment B.

2 Capital base

The capital base roll forward accounts for the value of Multinet'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 Multinet'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 Multinet'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 Multinet's proposed opening capital base of $1072.9 million as at 1 January 2013 because it considers that some of Multinet's inputs into the capital base roll forward model (RFM) do not comply with NGR.[22] These include:

- Multinet's revised estimate for capex in 2012
- formulae and calculation errors in Multinet's proposed capital base models.

After adjusting these inputs, the AER has determined an opening capital base of $1016.5 million ($nominal) as at 1 January 2013, which is approximately $56 million less than that proposed by Multinet. Table 2.1 summarises the AER's draft decision on the roll forward of Multinet's capital base during the 2008–12 access arrangement period.

The AER approves some aspects of Multinet'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.

[22] NGR, r. 77(2).

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

	2008	2009	2010	2011	2012
Opening capital base	1082.1	1071.8	1033.1	1017.8	1025.8
Capex	41.2	39.1	40.7	64.5	47.6[a]
Less: customer contributions	2.4	25.9	2.4	2.2	2.0
Less: depreciation	49.1	51.8	53.6	54.3	54.9
Closing capital base	1071.8	1033.1	1017.8	1025.8	1016.5
Opening capital base at 1 January 2013					1016.5

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 and depreciation, and inflation, the AER has determined a projected closing capital base of $1097.0 million ($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	1 016.5	1 052.1	1 065.9	1 079.6	1 094.2
Net capex	50.4	34.5	37.2	40.7	31.9
Less: depreciation	40.3	47.0	50.2	53.1	56.5
Indexation	25.4	26.3	26.6	27.0	27.4
Closing capital base	1 052.1	1 065.9	1 079.6	1 094.2	1 097.0

Source: AER analysis.

2.2 Multinet's proposal

Multinet proposed adopting an opening capital base as at 1 January 2008 of $1085.9 million ($2012).[23] This included an increase of $0.9 million from the previous access arrangement review to reflect the difference between the ESC's approved capex for 2007 and Multinet's actual capex for 2007.

[23] Multinet, *2013–17 access arrangement review—Access arrangement information*, March 2012, p. 165. (Multinet, *Access arrangement information*, March 2012).

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, Multinet proposed an opening capital base of $1072.9 million as at 1 January 2013. This is shown in Table 2.3.

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

	2008	2009	2010	2011	2012
Opening capital base	1085.9	1075.6	1037.0	1021.7	1029.7
Capex	41.2	39.1	40.7	64.5	99.0
Less: customer contributions	2.4	25.9	2.4	2.2	1.0
Less: disposals	–	–	–	–	–
Less: depreciation	49.1	51.8	53.6	54.3	54.9
Closing capital base	1075.6	1037.0	1021.7	1029.7	1072.9
Opening capital base at 1 January 2013					1072.9

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

2.2.2 Capital expenditure in the 2008–12 access arrangement period

Multinet indicated it has incurred capex of $284.6 million ($2012) in the 2008–12 access arrangement period.[24] This amount included actual capex from 2007–2011, and Multinet's current forecast of capex for 2012.

Multinet 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.

[24] Multinet, *Response to the AER's initial information request—Asset base and depreciation calculation model*, 11 May 2012.

Table 2.4 Multinet's proposed conforming capital expenditure for the earlier access arrangement period ($million, 2012)

	2008	2009	2010	2011	2012	Total
Transmission and distribution	25.6	22.3	19.3	30.8	33.2	131.2
Services	8.7	10.1	9.8	4.1	18.5	51.1
Cathodic protection	0.1	0.2	0.1	0.2	0.8	1.3
Supply regulators/ Valve stations	2.7	1.6	1.0	2.0	4.0	11.3
Meters	3.1	3.6	4.0	3.0	3.2	16.8
Land and buildings	–	–	–	–	–	–
IT	0.9	1.3	6.4	23.8	39.4	71.8
SCADA	0.1	0.1	–	0.6	–	0.8
Other	–	–	0.2	0.1	–	0.3
Total net capex	41.2	39.1	40.7	64.5	99.0	284.6

Source: Multinet, *Response to the AER's initial information request*, 11 May 2012.
Note: Totals may not add due to rounding.
Multinet's capital base models include its disaggregated asset classes as applied in the PTRM. These differ from the asset classes approved by the ESC and included in Multinet's access arrangement information. The AER has used the disaggregated asset classes to roll forward the capital base.

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

Multinet 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, Multinet proposed to apply six 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 six years of actual inflation using September–September annual changes in CPI.[25]

2.2.4 Depreciation in the 2008–12 access arrangement period

Multinet proposed to depreciate its capital base 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.[26]

[25] Multinet, *Opening capital base model*, April 2012.
[26] Multinet, *Access arrangement information*, March 2012, p. 151.

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

Multinet proposed a projected closing capital base as at 31 December 2017 of $1301.4 million ($nominal).[27] The projected roll forward of the capital base during the 2013–17 access arrangement period is shown in Table 2.5. Multinet has included in its capital base projection:

- annual forecast inflation of 2.51 per cent[28]
- forecast straight-line depreciation, which is discussed in more detail in attachment 5. Multinet proposed to use this forecast depreciation to determine the roll forward of the opening capital base at the next access arrangement review for the 2018–22 access arrangement period.[29] Multinet has also included in its forecast depreciation proposal some accelerated straight-line depreciation linked to redundant assets to be replaced before the end of their economic lives.

Table 2.5 Multinet's proposed projected capital base roll forward during the 2013–17 access arrangement period ($million, 2012)

	2013	2014	2015	2016	2017
Opening capital base	1072.9	1133.0	1179.5	1218.2	1265.3
Net capex	87.0	79.1	75.2	87.2	81.0
Less: depreciation	53.8	61.1	66.1	70.7	76.7
Indexation	26.9	28.4	29.6	30.6	31.8
Closing capital base	1133.0	1179.5	1218.2	1265.3	1301.4

Source: Multinet, *Post tax revenue model*, March 2012.

2.3 Assessment approach

In assessing Multinet's proposal, the AER is required to consider the transitional provisions of the NGR. This is because Multinet's access arrangement for the 2008–12 access arrangement period was ongoing when the new access regime came into force.[30] 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 NGR's new capex criteria.[31]

27 Multinet, Post tax revenue model, March 2012
28 Multinet, *Post tax revenue model*, March 2012.
29 Multinet, *Access arrangement information*, March 2012, pp. 166–167.
30 NGR, Schedule 1, clause 1(1)(a).
31 NGR, Schedule 1, clause 3(2)(a).

The AER's approach to assessing Multinet's projected capital base is consistent with that adopted by the AER in previous gas decisions made under the NGR.[32] 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:[33]

  - 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 accounts

  - 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:[34]

  - 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

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32 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.

33 NGR, r. 77(2).

34 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 Multinet'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. In particular, the AER considers:

- Multinet's separate roll forward and depreciation models contained formulae errors. The AER has corrected the errors and adjusted Multinet's two separate models into a combined RFM for determining the opening capital base (including the opening tax asset base and depreciation calculations for the 2008–12 access arrangement period). Further, Multinet's capital base models incorrectly included the benchmark adjustment to 2007 capex and therefore overstated the opening capital base as at 1 January 2008.

- The ESC's capex incentive scheme should still apply to 2012 capex. The capital base roll forward over the 2008–12 access arrangement period should therefore include benchmark 2012 capex adjusted for actual growth in demand, as per the ESC's approach.

- Multinet'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 respectively).

The AER has also made other minor amendments to Multinet'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 does not approve Multinet's proposed opening capital base as at 1 January 2008 because it does not correctly account for 2007 capex. Instead, the AER approves an opening capital base of $1082.1 million ($nominal) as at 1 January 2008, which is a reduction of $3.2 million ($2006)[35] from Multinet's proposal. This amount includes the AER's adjustment to account for the difference between forecast and actual capex for 2007. The AER considers that its draft decision therefore meets the requirements under the NGR.[36]

The AER considers that Multinet's capital base roll forward should remove the adjusted benchmark capex for 2007 from the capital base and include in its place the actual capex for 2007. This is consistent with the ESC's approach for including in the capital base the final year capex of an access arrangement period. However, Multinet's RFM:

1. Subtracts from the opening capital base as at 1 January 2008 the capex amount of $54.6 million ($2006). This amount is equal to the ESC's adjusted benchmark capex for 2007 approved at the previous access arrangement review. The adjusted benchmark capex for 2007 already included $3.2 million ($2006) of adjustment for actual growth in demand.

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35 Which is equal to $3.8 million ($nominal) of the opening capital base as at 1 January 2013.

36 NGR, r. 77(2)(a).

2. Adds back into the capital base the $3.2 million adjustment to benchmark capex for 2007.

3. Adds into the capital base $306.7 million of actual capex.

The AER considers that steps 1 and 3 are correct. However, step 2 is incorrect. The amount in step 2 is the adjustment that the ESC made to the benchmark (forecast) 2007 capex included in the capital base at the previous access arrangement review. It has already been removed as part of step 1. In response to an information request from the AER, Multinet submitted that step 2 was not an error.[37] It stated that the $3.2 million should be recognised in the capital base because it does not appear as actual capex for 2007 in Multinet's regulatory accounts.

The AER does not agree with Multinet's interpretation of the ESC's approach for rolling into the capital base the adjusted benchmark capex for 2007. The adjustment to the benchmark capex for 2007 was not intended to be a permanent addition to the capital base. The adjustment was instead used to update the ESC's forecast from the 2003–07 access arrangement review in 2002. Specifically, the adjustment reflected changes to the scale of Multinet's network, and Multinet's replacement of meters and low pressure pipelines over the 2003–07 access arrangement period. The resulting adjusted benchmark value was used to determine the power of the efficiency incentive for Multinet's capex in 2007. Now that actual capex is available for 2007, Multinet's capital base should only include its conforming capex for that year.

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 Multinet's proposed capex amounts for the 2008–12 access arrangement are properly accounted for in the capital base roll forward.

The AER accepts that Multinet's proposed capex for the 2008–12 access arrangement period is properly included in the capital base roll forward. The AER considers it is consistent with the requirements of the NGR,[38] with the exception of the following:[39]

- estimate of 2012 capex — the AER has replaced Multinet's estimate of 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 period
- minor reconciliation differences between Multinet's proposal and Multinet's audited regulatory accounts.

In total, these amendments result in a reduction of $51.5 million (2012) or 18 per cent of Multinet'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.

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37 Multinet, *Response to AER information request regarding the roll forward of the RAB*, 5 June 2012.

38 NGR, r. 77(2)(b).

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

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

Asset class	2007	2008	2009	2010	2011	2012	Total
Transmission and distribution	68.4	23.2	–3.6	16.9	21.6	25.1	151.4
Services	5.0	8.7	10.1	9.8	10.6	12.1	56.3
Cathodic protection	0.1	0.1	0.2	0.1	0.1	0.1	0.7
Suppy regulators/Valve stations	1.3	2.7	1.6	1.0	1.1	1.3	9.0
Meters	3.3	3.1	3.6	4.0	4.3	13.1	31.3
Land and buildings	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IT	0.9	0.9	1.3	6.4	24.3	0.3	34.1
SCADA	0.2	0.1	0.1	0.0	0.1	0.3	0.8
Other	0.0	0.0	0.0	0.2	0.1	0.0	0.3
Total net capex	79.2	38.8	13.2	38.3	62.3	52.2	284.0

Source: AER analysis.
Note: Totals may not add due to rounding.

Adjustments to 2012 capex

The AER does not approve Multinet'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.[40] 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. 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:[41]

- 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.

Multinet has instead proposed revised estimates of its actual capex for 2012. 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 Multinet's actual (conforming) capex for 2012 at the next access arrangement review. The AER considers that this approach properly applies the

40 NGR Schedule 5, clause 5(1)(a).

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

ESC's capex incentive scheme for the full period. This will ensure Multinet 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 ESCV benchmark[a]	Benchmark adjustment	AER approved 2012 gross capex
Transmission and distribution	30.4	–3.3	27.1
Services	12.1	–	12.1
Cathodic protection	0.1	–	0.1
Supply regs/Valve stations	1.3		1.3
Meters	5.0	8.1	13.0
Land and buildings	–	–	–
IT	0.3	–	0.3
SCADA	0.3	–	0.3
Other	–	–	–
Total gross capex	49.5	4.8	54.3

Source: AER analysis.
Note: Totals may not add due to rounding.
(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, Multinet has disaggregated its asset classes since that previous access arrangement review. The AER has therefore allocated the total values for 2012 capex to Multinet's disaggregated asset classes using the approved asset class proportions for 2011 capex.

The AER's draft decision results in a reduction to Multinet's proposed opening capital base as at 1 January 2013 of approximately $44.7 million ($nominal), or 4 per cent of Multinet's proposed opening capital base. However, this value will be updated for actual 2012 capex at the time of the next access arrangement review. Multinet 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:[42]

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,

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

the ESC adjusted this benchmark capex for growth in customer numbers, 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
- 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.

The AER has decided not to include a capex incentive scheme for the 2013–17 access arrangement period (see attachment 7). Under the NGR,[43] the AER must ensure that revenue calculations for the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the ESC's capex incentive mechanism. 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 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.

Multinet's models

The AER has developed a consolidated model combining all aspects of Multinet's capital base, tax asset base and economic life roll forward calculations. The AER considers that its model:

- corrects the formulae errors in Multinet's models

[43] NGR Schedule 1, clause 5(1)(a).

- is more transparent than Multinet's separate models
- is consistent with the approach used in the AER's assessment of all of the Victorian gas distribution businesses.

Multinet did not include in its proposal a supporting model to demonstrate the calculations of inputs into its proposed capital base roll forward. The AER requested from Multinet a copy of its supporting calculations for the proposed capital base roll forward.[44] Multinet provided two separate models, covering the roll forward of the capital base and the tax asset base, including its depreciation calculations.[45] The calculations in these models are interdependent, but the models as provided to the AER were not linked. The AER also found a number of formulae errors in Multinet's models. Due to these errors, the AER considers Multinet's proposed calculations for its capital base roll forward:

- are not arrived at on a reasonable basis[46]
- do not represent the best forecasts or estimates possible in the circumstances.[47]

The AER's consolidated RFM for Multinet is broadly based on Multinet's proposed approaches in its models, corrected for these errors.

2.4.3 Indexation of the capital base

The AER approves Multinet's total proposed indexation of the capital base over the 2008–12 access arrangement period because it will sufficiently compensate Multinet for the effects of inflation. This approach applies one year of change in the September–September CPI to index the capital base for one year. This is consistent with the AER's standard approach, and with the ESC's approach to roll forward the capital base.

2.4.4 Depreciation used in the 2008–12 access arrangement period

The AER approves Multinet'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.[48]

The AER must subtract from the capital base depreciation calculated in accordance with the relevant access arrangement as required under the NGR.[49] In its previous access arrangement review, the ESC calculated a benchmark depreciation allowance for Multinet, based on its forecast capex allowance over the 2008–12 access arrangement period.[50] The

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44 AER, *Initial information request to Multinet*, 26 April 2012, p. 6.
45 Multinet, *Response to the AER's initial information request*, 11 May 2012.
46 NGR, r. 74(2)(a).
47 NGR, r. 74(2)(b).
48 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.
49 NGR, r. 77(2)(d).
50 ESC, *Gas access arrangement review 2008–12, Final decision*, March 2008, p. 439.

ESC had also previously used forecast depreciation to determine the opening capital base. The AER therefore accepts that Multinet's proposed approach is consistent with the relevant provisions in the 2008–12 access arrangement and therefore with the NGR.[51]

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

The AER's forecast of Multinet's projected capital base at 31 December 2017 is $1097.0 million ($nominal), a reduction of $204.5 million or 15.7 per cent from Multinet's proposal. This is because of the AER's draft decision having amended the inputs to the determination of the projected capital base. The AER has amended the inputs as follows:

- Reduced Multinet's proposed opening capital base as at 1 January 2013 to $1016.5 million or by 5 per cent to reflect the changes required in this attachment.
- Reduced to zero the opening asset values in the 'Pipeworks retirement (mains)' and 'Pipeworks retirement (services)' asset classes, and moved these asset values into the 'Transmission & distribution' and 'services' asset classes respectively. This does not change the opening capital base as at 1 January 2013, but does affect the forecast depreciation allowance. This is discussed in more detail in attachment 5.
- Reduced Multinet's proposed forecast capex allowance by approximately $191 million ($2012) or 52 per cent. The AER's detailed assessment of the forecast capex allowance is set out in attachment 3.
- Reduced Multinet's proposed forecast depreciation allowance by approximately $67 million ($nominal) or 37 per cent. The AER's assessment of the proposed forecast depreciation allowance is set out in attachment 5.
- Updated forecast inflation to be 2.50 per cent per annum for the 2013–17 access arrangement period. While the AER accepts Multinet's proposed approach to estimating forecast inflation, the AER has updated the forecast for this draft decision. The AER's assessment of Multinet'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 under the NGR.[52] These adjustments include, but are not limited to:

- 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 Multinet's proposal to use forecast depreciation approved in the final decision for the 2013–17 access arrangement period to establish Multinet's opening capital base as at 1 January 2018.[53] The AER approved such an approach in the decisions for

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51 NGR, r.77(2)(d).
52 NGR r. 77(2).
53 Multinet, *Access arrangement information*, March 2012, pp. 166–167.

Jemena Gas Networks (JGN), APT Allgas, and Envestra networks.[54] This approach is also consistent with the approach outlined in the AER's Access Arrangement Guideline.[55]

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 opening 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.

54 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.

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

3 Capital expenditure

This attachment outlines the AER's assessment of Multinet'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 $231.7 million ($2012, including internal direct overheads) total net capex for 2007-11 as conforming capex under r. 79(1) of the NGR.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 3.1 AER approved capital expenditure by category over 2007–11 ($million, 2012)

Category	2007	2008	2009	2010	2011	2012[(a)]
Mains replacement	22.4	7.8	4.9	4.7	4.2	21.3
Residential connections	45.9	17.8	18.8	12.6	14.0	12.7
Commercial/industrial connections	1.6	1.6	2.8	1.9	2.5	0.9
Meters	2.2	1.8	2.0	2.5	1.8	4.4
Augmentation	7.6	6.0	6.5	7.9	12.0	5.2
IT	0.9	0.8	1.1	5.8	21.9	0.3
SCADA	0.2	0.1	0.1	0.0	0.1	0.3
Other	1.8	1.2	1.3	1.4	1.6	2.6
Internal direct overheads	0.0	0.0	0.0	0.0	0.0	0.0
Indirect overheads	0.0	4.1	1.6	4.1	6.4	0.0
GROSS TOTAL	82.6	41.2	39.1	40.7	64.5	47.6
Customer contributions	3.4	2.4	2.4	2.4	2.2	2.0
Government contributions	0.0	0.0	23.6	0.0	0.0	0.0
NET TOTAL	79.2	38.8	13.2	38.3	62.3	45.6

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 attachement 2.

Conforming capital expenditure for the 2013–17 access arrangement period

The AER approves $177.7 million ($2012) total net capex of Multinet's proposed $375.3 million ($2012) total net capex for 2013–17.

Table 3.2 shows approved capex for the 2013–17 access arrangement period by category.

Table 3.2 AER approved capital expenditure by category over the 2013–17 access arrangement period ($million, 2012)

Category	2013	2014	2015	2016	2017
Mains replacement	10.5	7.8	9.9	7.7	9.0
Residential connections	12.6	12.6	12.5	12.0	11.9
Commercial/industrial connections	0.9	0.8	0.8	0.8	0.8
Meters	2.2	2.2	2.2	2.2	2.2
Augmentation	–	1.7	2.3	3.5	–
IT	17.8	6.4	4.5	5.3	1.6
SCADA	0.8	0.1	0.0	0.0	0.0
Other	14.9	4.7	3.1	6.1	3.6
Internal direct overheads	–	–	–	–	–
Indirect overheads	–	–	–	–	–
GROSS TOTAL	59.7	36.3	35.4	37.7	29.2
Customer contributions	11.6	4.3	1.6	1.6	1.6
Government contributions	–	–	–	–	–
NET TOTAL	48.1	32.1	33.8	36.1	27.6

Source: AER analysis.

Table 3.3 shows Multinet's proposed capex compared with the AER's approved allowance for each category.

Table 3.3 Comparison of AER approved and Multinet's proposed capital expenditure over the 2013-17 access arrangement period ($million, 2012)

Category	Multinet proposed	AER approved	Difference
Mains replacement	121.3	44.8	-63%
Residential connections	96.0	61.5	-36%
Commercial/industrial connections	12.7	4.2	-67%
Meters	14.0	11.2	-20%
Augmentation	35.1	7.4	-79%
IT	46.9	35.6	-24%
SCADA	7.4	1.0	-86%
Other	46.1	32.4	-30%
Internal direct overheads	16.4	–	-100%
Indirect overheads	–	–	0%
GROSS TOTAL	396.0	198.4	-50%
Customer contributions	20.7	20.7	0%
Government contributions	–	–	0%
NET TOTAL	375.3	177.7	-53%

Source: AER analysis, Multinet.

The reasons for the AER's reductions are:

- The low pressure to high pressure 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 due to the AER's assessment that Multinet did not forecast unit rates on a reasonable basis as required by r. 74(2)(a) of the NGR. Multinet overstated the direct overheads in its internal cost build up of unit rates. The cast iron and low pressure designated zone programs are not approved as Multinet has not justified the need for the programs, as required under r. 79(2) of the NGR.

- Residential and commercial/industrial connections capex is reduced due to Multinet's estimate of volumes and unit rates not being forecast on a reasonable basis as required by r. 74(2)(a) of the NGR. The AER was unable to corroborate NIEIR's abolishment rate and Multinet did not provide the volume information for meters, services and mains which would have allowed the AER to assess the unit rates for meters, services and mains.

- Residential and commercial/industrial meter replacement capex is reduced as the AER was not satisfied that Multinet's proposed unit rates were prudent and efficient and comply with r. 79(1) of the NGR. The AER considers that Multinet's forecast volumes of meter replacement appear commensurate with its historical replacement rate. However,

Multinet did not provide sufficient evidence for the AER to establish the reasonableness of Multinet's proposed unit rates. Accordingly, the AER considers that that an average of Multinet's historical expenditure over the 2008–12 period is the best forecast available in the circumstances.[56]

- Augmentation expenditure is reduced due to:
  - project estimates not being arrived at on a reasonable basis, as required under r. 74(2)(a) of the NGR, as cost elements were not justified and gas pressure information was conflicting
  - the project not being justified, as required under r. 79(2) of the NGR, as solutions did not show the expected improvement in gas pressures
- IT expenditure is reduced, for consistency with r. 79(1)(a) of the NGR, because:
  - allocations for risk and contingency were above efficient levels
  - The AER considered several projects, including GIS Strategy, GE Smallworld Upgrade and Data Warehouse Enhancement, are necessary but the capex forecast was above an efficient level.
- SCADA expenditure is reduced, for consistency with r. 79(1)(a) and (b) of the NGR, because
  - one IT-related project (SCADA Separation) was found to be scheduled too early for efficient use of the assets, and related projects for SCADA infrastructure upgrade were therefore found to be not necessary
  - accelerated replacement of RTUs was not efficient
  - there is insufficient evidence of the need for several other projects, including new fringe RTUs, electronic gas detectors and upgrading equipment from monitoring to control.
- Certain projects within Multinet's "Other non-demand" capex program do not comply with r. 79(1)(a) of the NGR as the AER does not consider they would be undertaken by a prudent and efficient service provider. Additionally, some projects do not comply with r. 74(2) of the NGR as the AER does not consider Multinet has demonstrated that the forecast capex for these projects was arrived at on reasonable basis or is the best possible forecast in the circumstances.
- Internal direct overhead expenditure was not approved by the AER on the basis that this cost reflects a shift from costs which were previously incurred by contractors to costs which are incurred internally under the new business structure, so there is no net new cost.

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[56] Escalated to $2012.

Multinet's Proposal

2007–11 period

Multinet proposed net total capex of $231.6 million ($2012) for 2007–11. This is 18.5 per cent below the benchmark allowance approved by the ESC.

Table 3.4 Multinet proposed capital expenditure by category over 2007–11 ($million, 2012)

Category	2007	2008	2009	2010	2011	2012[(a)]
Mains replacement	22.4	7.8	4.9	4.7	4.2	21.8
Residential connections	45.9	17.8	18.8	12.6	14.0	13.5
Commercial/industrial connections	1.6	1.6	2.8	1.9	2.5	0.0
Meters	2.2	1.8	2.0	2.5	1.8	3.2
Augmentation	7.6	6.0	6.5	7.9	12.0	14.6
IT	0.9	0.8	1.1	5.8	21.9	39.4
SCADA	0.2	0.1	0.1	0.0	0.1	0.0
Other	1.7	1.2	1.3	1.4	1.6	6.5
Internal direct overheads	0.0	0.0	0.0	0.0	0.0	0.0
Indirect overheads	0.0	4.1	1.6	4.1	6.4	0.0
GROSS TOTAL	82.5	41.2	39.1	40.7	64.5	99.0
Customer contributions	3.4	2.4	2.4	2.4	2.2	0.0
Government contributions	0.0	0.0	23.6	0.0	0.0	0.0
NET TOTAL	79.0	38.8	13.2	38.3	62.3	99.0

Source: AER analysis of Multinet's proposal.
Notes: (a) The 2012 figures represent forecast actual capex from Multinet'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

Multinet proposed net total capex of $375.3 million ($2012) for the 2013–17 access arrangement period. This represents a real increase of 32 per cent over the approved allowance for the 2008–12 access arrangement period (see Figure 3.1 below).

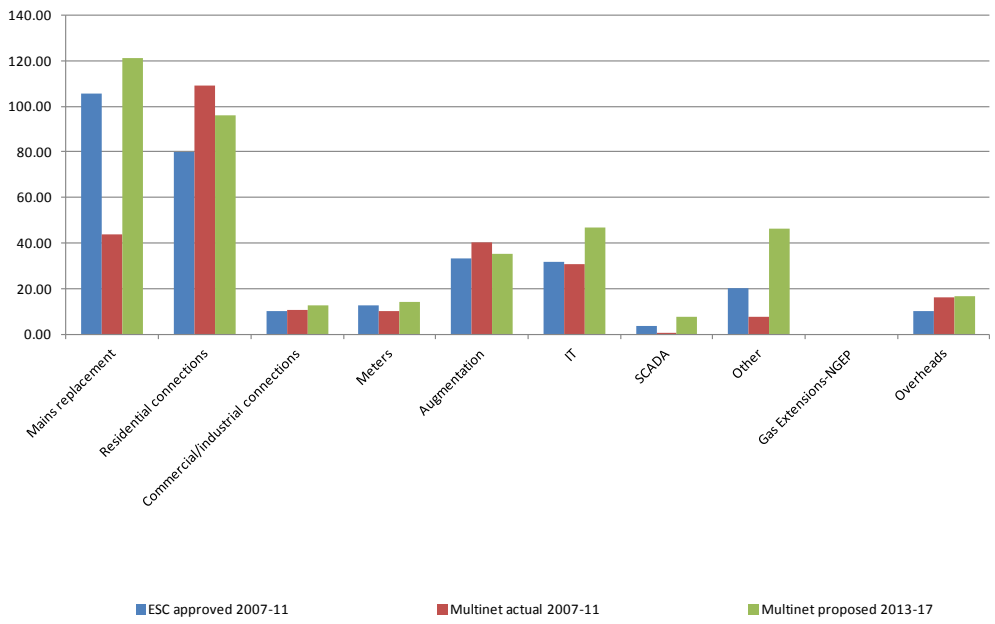
Table 3.5 Multinet proposed capex by category over the 2013–17 access arrangement period ($million, 2012)

Category	2013	2014	2015	2016	2017
Mains replacement	24.8	26.2	22.5	22.1	25.7
Residential connections	15.0	19.9	20.4	20.4	20.4

Commercial/industrial connections	2.2	2.6	2.5	2.7	2.6
Meters	3.6	3.3	2.4	2.3	2.4
Augmentation	8.5	6.9	6.1	6.4	7.2
IT	19.9	8.8	6.9	7.8	3.5
SCADA	1.1	0.5	0.5	5.0	0.4
Other	17.7	7.1	6.1	9.0	6.2
Internal direct overheads	1.9	3.5	3.6	3.7	3.8
Indirect overheads	0.0	0.0	0.0	0.0	0.0
GROSS TOTAL	94.6	78.8	71.0	79.4	72.2
Customer contributions	11.6	4.3	1.6	1.6	1.6
Government contributions	0.0	0.0	0.0	0.0	0.0
NET TOTAL	83.0	74.5	69.4	77.8	70.6

Source: AER analysis of Multinet's proposal.

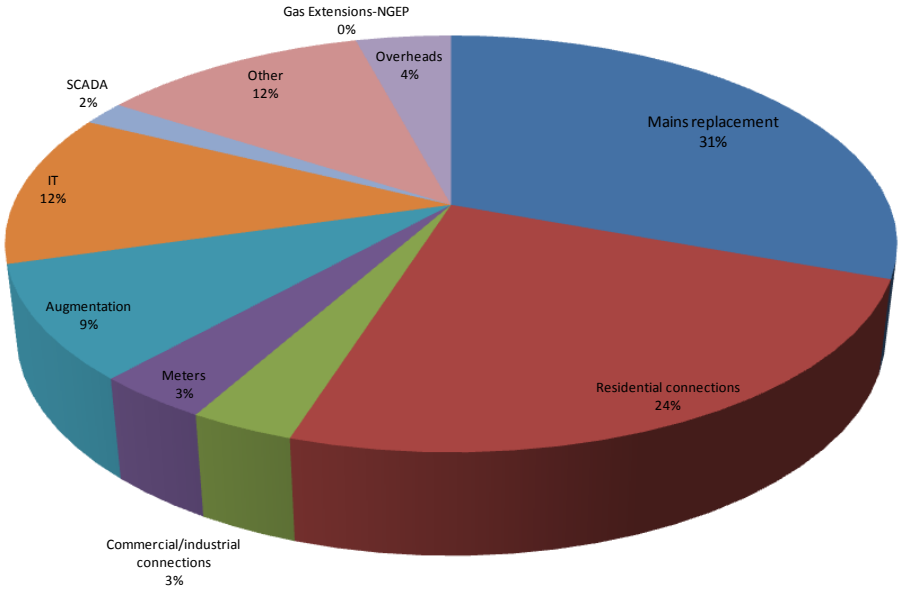
Figure 3.1 Comparison of Multinet's past approved, actual and proposed capex ($million, 2012)



Source: Multinet, ESC.

The major components of the forecast gross total expenditure are mains replacement (32 per cent), residential connections (23 per cent), IT (13 per cent), other non-demand (12 per cent) and augmentation (9 per cent), (see Figure 3.2).

Figure 3.2 Composition of Multinet's total capex for 2013–17 ($million, 2012)



Source: Multinet.

3.2 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.[57]

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
  - represent the best forecast or estimate possible in the circumstances[58]

[57] NGR, r. 78.
[58] NGR, r. 74(2).

- 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 of the NGR.[59] 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 Multinet in assessing its proposed capex. The AER will not approve certain information and forecasts provided by Multinet if the information does not meet the requirements set out in the NGR. The AER must exercise its economic regulatory functions in a manner that will or is likely to contribute to the achievement of the NGO. 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 Multinet's proposed capex in the earlier access arrangement period, the AER reviewed Multinet's supporting material. This included information on Multinet's reasoning and, where relevant, business cases, audited regulatory accounts, and other 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.

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[59] NGR, r. 40(2), r. 79(6).

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 base[60]. 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 Multinet's actual capex for 2007 is conforming capex under the NGR[61]. This conforming capex is then included in the capital base roll forward.[62]

- 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 Multinet's actual capex for 2008–11 is conforming under the NGR for inclusion in the capital base roll forward[63]

- 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 scheme[64]. 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 Multinet's actual capex for 2012 is conforming capex under the NGR[65].

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 Multinet'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 for the capex. In making its decision on Multinet's proposed capital expenditure the AER relied upon the following information:

- The access arrangement information (AAI) - this document outlines Multinet's program of capital expenditure and describes the main drivers of increased capital expenditure

- The Asset Management Plan,[66] Asset strategy plans and appendices which provided specific expenditure detail[67]

- Vic DNSPs RIN Template

- Multinet responses to AER information requests

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60 NGR r. 77(2)(a)
61 NGR r.79
62 NGR r.77(2)(a)
63 NGR r. 79 and 77(2)(b)
64 NGR, Schedule 1, clause 5(1)(a)
65 NGR r.79
66 Multinet, *Access Arrangement Information:* Appendix D-1: Multinet Gas Network Asset Management Plan 2012/13-2017/18, March 2012 (CONFIDENTIAL)
67 Multinet, *Access Arrangement Information:* Appendices D-2 – D-16, E-1 (CONFIDENTIAL).

- Submissions received in the course of consulting on the access arrangement proposal[68]

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 prudency 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 prudency 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 was used by the AER to assess efficiency and prudency of Multinet'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 2011–2015.[69]

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

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

69 AER, Final decision for the Victorian electricity distribution network service providers, Distribution determination 2011-15, pp. 150–151.

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.

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, meter replacements, SCADA and IT.

The revealed cost approach is an accepted industry practice. Many gas businesses have used this approach as a basis 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 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 Multinet has used to develop its capex forecast. In particular, the AER undertook a high level benchmarking of a selection of Multinet'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, SCADA and IT.

Where this benchmarking indicated that Mulitnet's capex may not be efficient, the AER undertook a detailed review of Multinet'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 suggest 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 Multinet's opex allowance.

Specialist technical advice

The AER engaged Nous Group to provide technical advice on the prudency and efficiency of IT projects. The AER engaged Zincara to provide engineering technical advice on the prudency and efficiency of augmentation projects and the medium pressure and minor specific mains replacement programs.[70]

Cash flow analysis for equity raising costs

To determine the amount of equity raising costs, the AER has undertaken 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 Multinet.

3.3 Reasons for decision

3.3.1 Conforming capital expenditure for 2007–11

The AER considers that $231.7 million ($2012) of the net capital expenditure incurred by Multinet for 2007-11 complies with r. 79(1) of the NGR.

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

- Multinet's capex was $52.6 million (18.5 per cent) below the ESC approved amount of $284.4 million ($2012) (see Table 3.6)
- Multinet spent less than the ESC allowance in five out of ten categories.
- The largest underspends occurred in the mains replacement, meter replacement, IT and SCADA and "Other" categories:
  - The category with the largest underspend by value was mains replacement, where Multinet spent 58.4 per cent below the ESC approved amount of $105.5 million ($2012). This resulted from the length of pipeline completed being 40 per cent below the benchmark, and unit cost 28 per cent below the benchmark set by the ESC.
  - Meter replacement capex was 17.5 per cent under the ESC benchmark of $12.5 million ($2012).
  - IT capex was 3.9 per cent below the ESC benchmark of $31.7 million. SCADA capex was 87.1 per cent below the ESC benchmark of $ 3.7 million
  - In the "Other" capex category, Multinet spent 63.6 per cent below the ESC benchmark of $20.2 million ($2012). This was due to deferral of projects.

[70] The AER notes that Zincara was not requested to provide advice in relation to the assessment of the capex proposed for the Lilydale pipeline.

- Multinet spent more than the ESC allowance in 4 out of ten categories,
- The largest overspends occurred in the residential connections and augmentation categories:
  - Residential connections expenditure was 37.5 per cent above the ESC approved amount of $79.9 million ($2012). This arose because residential connection unit rates were higher than the ESC benchmark by 75 per cent.
  - Augmentation expenditure was 20.3 per cent above the ESC approved amount of $33.3 million. Multinet stated that the variance was due to the higher unit rate incurred on the Lilydale project, which was higher than was forecast by the ESC. Multinet noted that it has incurred the cost for this project on the basis of a competitive tender.

Table 3.6 Comparison of ESC approved and Multinet capital expenditure over 2007-11 ($million, 2012)

	ESC approved	Multinet actual	Difference
Mains replacement	105.5	43.9	-58.4%
Residential connections	79.9	109.1	36.5%
Commercial/industrial connections	10.3	10.4	0.8%
Meters	12.5	10.3	-17.5%
Augmentation	33.3	40.0	20.3%
IT	31.7	30.5	-3.9%
SCADA	3.7	0.5	-87.1%
Other	20.2	7.3	-63.6%
Internal direct overheads	0.0	0.0	0.0%
Indirect overheads	9.9	16.2	63.6%
GROSS TOTAL	306.9	268.2	-12.6%
Customer contributions	22.6	12.9	-43.0%
Government contributions	0.0	23.6	0.0%
NET TOTAL	284.4	231.7	-18.5%

Source: Multinet, ESC.

3.3.2 Conforming capital expenditure for the 2013-17 access arrangement period

The AER approves $177.7 million ($2012, escalated) of Multinet's proposed $375.3 million ($2012, including internal direct overheads) total net capex for the 2013-17 access arrangement period (see Table 3.7).

Table 3.7 AER approved capital expenditure over the 2013–17 access arrangement period ($million, 2012, including escalation)

	2013	2014	2015	2016	2017
Mains replacement	10.5	7.8	9.9	7.7	9.0
Residential connections	12.6	12.6	12.5	12.0	11.9
Commercial/industrial connections	0.9	0.8	0.8	0.8	0.8
Meters	2.2	2.2	2.2	2.2	2.2
Augmentation	–	1.7	2.3	3.5	–
IT	17.8	6.4	4.5	5.3	1.6
SCADA	0.8	0.1	0.0	0.0	0.0
Other	14.9	4.7	3.1	6.1	3.6
Internal direct overheads	–	–	–	–	–
Indirect overheads	–	–	–	–	–
GROSS TOTAL	59.7	36.3	35.4	37.7	29.2
Customer contributions	11.6	4.3	1.6	1.6	1.6
Government contributions	–	–	–	–	–
NET TOTAL	48.1	32.1	33.8	36.1	27.6

Source: AER analysis.

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

Mains replacement

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.

Multinet proposed mains replacement capital expenditure of $121.3 million ($2012, direct costs, excluding internal direct overheads) for the following mains replacement programs:

- Low pressure (LP) to high pressure (HP) pipeworks program

- Large diameter cast iron mains replacement (including a large diameter low pressure designated zone (LPDZ) allowance)
- Small diameter LPDZ mains replacement program
- Unplanned services renewal program.

Multinet stated that its mains program aims are to:

- Mitigate risk to personnel and the public
- Increase reliability and quality of supply[71].

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

Low pressure to high pressure pipeworks program

The network contains cast iron and unprotected steel LP mains which are near or past their technical life and have associated high fracture and leakage rates. 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.

Multinet proposed a pipeworks (LP mains replacement) program consisting of a total of 401 km, at an average unit rate of $226/metre ($2012, direct costs, excluding internal direct overheads), costing $90.5 million ($2012, direct costs, excluding internal direct overheads) for the 2013–17 access arrangement period.

Multinet submitted that its proposed level of replacement and capital expenditure under the pipeworks program for the forthcoming period is prudent, and complies with the requirements of r.79 of the NGR. Its capital expenditure plans are focused on identifying the efficient and sustainable level of investment required to:

- comply with all regulatory and statutory obligations
- meet customers' expectations in terms of providing safe and reliable network services and meeting the guaranteed service levels.[72]

In its submission, the Energy Users Coalition of Victoria (EUCV) noted that Multinet forecasts a 20 per cent increase in the cost of mains replacement due to more difficult access conditions. The EUCV deduced that overall the mains and services category might need to increase by about 10 per cent yet Multinet has sought an increase of 64 per cent. The EUCV

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[71] Multinet, *Access Arrangement Information: Attachment D-1, Network Asset Management Plan*, March 2012, p.57

[72] Multinet, *Access Arrangement Information,* March 2012, pp.108, 111.

considered this increase is high given declining amounts of gas to be transported on the network.[73]

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

Unit costs

Multinet's forecast average unit cost for all LP mains renewal in the fourth regulatory period (2013-2017) is $226/metre ($2012, direct costs, excluding internal direct overheads). This is 70 per cent higher in real terms than the average unit cost for the 2007-2011 period.

Reasons given by Multinet for the increase in rates were:

- the replacement of several large diameter low pressure supply mains that run through major arterial roads and high-density strip shopping where work is costly and complex.[74]
- the additional difficulty and complexity of the work in areas with high vehicular traffic volumes and multi-unit residential developments, including high-rise buildings
- movement in the program from geographic areas abutting the existing high pressure networks to inner suburban areas where some grid main construction work must be programmed.
- materials cost increases for both polyethylene (PE) and steel pipe over the last five years as a result of the resources boom and increases in the price of oil.[75]

Multinet provided data on the length, unit cost and total cost of work for each project by year for the 2013–17 access arrangement period. Multinet's unit rates showed a large variation between locations for normal and grid mains replacements.[76]

The AER's engineering consultant, Zincara, reviewed Multinet's internal cost estimate of the unit rate for each project.[77] These cost build ups showed volumes and unit rates for all cost elements.

The AER considers that Multinet's detailed cost build-ups for each project provide a reasonable basis for estimating costs for future projects. This is on the basis that they take specific account of factors that affect the difficulty and cost in each location, and the per unit rates for materials and contractors align with market rates.

Zincara considered that the labour and material direct costs were within industry standards.

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73 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 Multinet's Access Arrangement Proposal*, June 2012) p. 22.

74 Multinet, *Access Arrangement Information,* March 2012, p.100

75 Multinet, *Access Arrangement Information,* March 2012, p.100, 109.

76 Multinet, *Access Arrangement Information: D-7 Distribution Mains Strategy,* March 2012, Table 6-1, p.26; Multinet, Email 'FW: GAAR estimates for year 1' received 17 July 2012, Email 'FW: GAAR estimates for year 2' received 17 July 2012, Email 'FW: GAAR estimates for year 3' received 17 July 2012, Email 'FW: GAAR estimates for year 4' received 17 July 2012, Email 'FW: GAAR estimates for year 5' received 17 July 2012, Email 'FW: GAAR estimates for years 3, 4, and 5 - SOUTH' received 17 July 2012, Email 'FW: GAAR estimates for years 1 and 2 SOUTH' received 17 July 2012 (confidential).

77 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.25-27. (confidential)

However, Multinet applied direct overheads costs to the direct labour and material costs which, based on the advice of Zincara[78], the AER considers are above standard industry practice. Multinet provided no evidence to justify this level of overhead. The AER therefore does not consider that this overhead rate is arrived at on a reasonable basis and the best estimate possible in the circumstances. The AER has adjusted Multinet's direct overhead rate down to industry standard rates. The resultant unit rate reflects an efficient level of overheads that are in accordance with accepted good industry practice, consistent with r 74(2) requirements.

Volumes

In assessing Multinet'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 Multinet in excess of the annual average historical volumes are necessary or prudent and efficient. The historical volumes have been sufficient to meet Multinet's chosen level of risk in the current period. Without evidence to the contrary, the AER considers that Multinet 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.

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 Multinet 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.

Multinet proposed undertaking 401 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"[79]. 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 system[80].

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

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78 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, p.27. (confidential)

79 ESC, *Review of Gas Access Arrangements Final Decision*, October 2002, p.117

80 ESC, *Review of Gas Access Arrangements Final Decision*, October 2002, p.117

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. Multinet stated that "[d]uring the forthcoming Access Arrangement Period, Multinet is not proposing to “catch up” the shortfall in the current period. Any decision to “catch up” the program or simply extend it will be made at a later time”[81].The ESV is currently reviewing the distribution businesses prioritisation and approach to mains replacement.

During 2008–2011, Multinet delivered under half the volume of the low pressure replacement that it proposed. Multinet was funded over four times as much as it actually spent on mains replacement.

As noted above, the ESV is currently reviewing the distribution businesses' prioritisation and approach to mains replacement. However, because of how the regulatory framework operates, consumers have paid gas prices reflective of the higher volumes approved in the previous regulatory period, not the actual volumes completed.

Multinet justified its proposed low pressure to high pressure mains replacement capex on the basis of maintaining safety, reliability and the need to meet regulatory obligations. Specifically, Multinet stated that the aims of the pipeworks program are to:

- Minimise repeated consumer outages
- Minimise risk associated with leakage
- Minimise maintenance activities associated with aged assets
- Alleviate the growing demand for gas supply on the low pressure distribution system[82].

Multinet stated that the Gas Safety Act 1997 (Vic) (Gas Safety Act) and regulations place the responsibility for the ongoing maintenance of distribution mains with the asset owner. Multinet cited AS 4645 parts 1, 2 and 3 as the industry standard with which it seeks to comply[83].

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 supply[84]. The obligation also includes minimising hazards and risks of damage to public property and the property of customers arising from gas.

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81 Multinet, *Access Arrangement Information,* March 2012*,* p.104.

82 Multinet, *Access Arrangement Information,* March 2012*,* p.108.

83 Multinet, *Access Arrangement Information:D-7 Distribution Mains,* March 2012*,* p.11 (confidential). These are high level guidelines without specific requirements.

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

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 risk[85].

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. Multinet stated that it meets its safety obligations in relation to distribution mains through a mixture of the proactive mains replacement program, leakage surveys and proactive and reactive maintenance programs[86].

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:

- 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, Multinet cites that it diverted capex from the mains replacement program towards IT asset investment[87]. 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.

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85 *Gas Safety Act 1997 (Vic)*, s.3.

86 Multinet, *Access Arrangement Information: D-1* Asset Management Plan, March 2012, pp.64-65 (confidential).

87 Multinet, *Access Arrangement Information*, 30 March 2012, p.112.

Multinet stated that it has under delivered due to the reduced weighted average cost of capital which the ESC approved, the GFC and higher IT costs that required funding[88]. Multinet reported that "although replacements were below the approved annual average amount there were no legal or regulatory implications associated with the level of replacement undertaken"[89]. Furthermore, Multinet stated that "the deferral in [p]ipeworks capital expenditure has been achieved without affecting service performance in the current Access Arrangement Period. In addition, customers will benefit from lower prices in future as Multinet's regulated asset base is lower as a result of the deferral"[90].

The AER accepts that Multinet 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 Multinet's safety and reliability obligations involves lower volumes of mains replacement than was proposed by Multinet 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 Multinet in excess of the annual average historical volumes are necessary or prudent and efficient. The historical volumes have been sufficient to meet Multinet's chosen level of risk in the current period. The AER considers that, as it has done in the past, Multinet 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 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 Multinet 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

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88 Multinet, *Access Arrangement Information*, 30 March 2012, p.112.

89 Multinet, *Response to information request 13 of 8 June 2012*, received 18 June 2012, Q.6, p. 3 (confidential).

90 Multinet, *Access Arrangement Information*, 30 March 2012, p.112.

the ability to alter the volume of mains replacement delivered. Consistent with Gas Safety Act[91], 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 total approved volumes[92] (the annual average of the historical volumes achieved for the 2008-11 period applied to the 2013-17 access arrangement period).

On completion of total approved 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.

The AER notes that the mains replacement work is outsourced by Multinet. 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 Multinet currently has over future works.

Adjusted unit rates

On the basis of confidential information provided by Multinet, the AER notes that when Multinet reduced the volume of mains replacement works below the approved amount in the current period, it tended to prioritise the lower cost suburbs.

Given the reduction in approved volumes for the next period, as outlined above, the AER has accordingly adjusted the approved unit rate, on the basis that the projects with the lowest unit

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91 Gas Safety Act 1997 (Vic), s.45.

92 For Multinet the total approved volume is 240 km, which is the average of the annual volumes of main replacement delivered over 2008-11, multiplied by 5 years.

cost (as submitted by Multinet) within the approved volume will be completed first, taking into account any grid mains which are required to be concurrently undertaken.

The AER approves 240 km at an average unit rate of $175 per metre ($2012, direct costs, excluding internal direct overheads) and a total expenditure of $42.0 million ($2012, direct costs, excluding internal direct overheads).

Large diameter cast iron mains replacement

This program relates to mains which are greater than 225mm in diameter and made of cast iron and unprotected steel operating under low and medium pressure.

Multinet is proposing to increase the expenditure on large diameter cast iron mains in comparison with the 2008–12 access arrangement period. In the 2008–12 period, large diameter cast iron mains were replaced on an ad hoc basis where there was asset failure[93].

Multinet proposed five replacement projects for the 2013–17 access arrangement period worth $9.4 million ($2012, direct costs, excluding internal direct overheads) and an ad hoc allowance of $0.2 million per year ($2012, direct costs, internal direct excluding overheads) over the access arrangement period (see Table 3.8).

Table 3.8 Multinet's proposed Large Diameter Cast Iron mains replacement program ($'000 2012, direct costs, excluding internal direct overheads).

Project	Volume (metres)	Unit rate ($/metre)	2013	2014	2015	2016	2017
Provision for ad-hoc replacement	200	5,000	200	200	200	200	200
Aughtie Nepean Hwy M43 (Decommission), St Kilda	5,000	1,000	1,000	1,000	-	-	-
Summerhill Rd, Glen Iris (Downgrade)	3,100	226	-	-	700	-	-
Wellington Rd (Decommission), Kew	2,500	456	-	-	-	1,140	-
Riversdale Rd (downgrade), Hawthorn	800	231	-	-	-	-	185
Auburn Rd, Hawthorn	3,800	1,421	-	-	-	800	4,600
Total	**15,400**	**841**	**1,200**	**1,200**	**900**	**2,140**	**4,985**

Source: Multinet, *Access Information Arrangement,* March 2012, based on calendar year conversion of Table 5-8, p.116

Multinet based its decision to introduce proactive large diameter cast iron mains replacement program on modelling risk factors, field staff reports and leakage surveys[94].

93 Multinet, *Response to information request 13 of 8 June 2012*, received 18 June 2012, Question 2, p.1

94 Multinet, *Access Arrangement Information* March 2012, p.115

The AER considered the following factors in assessing Multinet's Large Diameter Cast Iron mains replacement projects:

- Whether the replacement capital expenditure was necessary (as required by r.79(2)(c)) and the solution was appropriate (that is, whether it the expenditure for the solution is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a))

- Whether the proposed timing for replacement was prudent (that is, whether the expenditure for the solution is incurred at such a time as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a))

- from a cost efficiency view point, whether a proactive or reactive program is more appropriate (that is, whether the expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a)).

The AER sought additional information from Multinet to provide evidence in support of its decision that the work needs to be undertaken, the analysis of the risk associated with the mains in the proposed projects and why the work needs to be done in the proposed timeframe[95]. The AER has not received a response from Multinet providing any further information to that which was in the original proposal. The AER sought and received a copy of the report which Multinet stated that it has used to prioritise its replacements[96].

Based on the advice of its engineering consultant, Zincara[97], the AER considers that there must be good empirical evidence to support the need for these projects. There must also be a risk analysis carried out to be able to demonstrate that the risk of these gas mains is sufficiently high to justify carrying out the work. Multinet has not provided this evidence. In addition, whilst the report provides a method of prioritising the replacements, the AER agrees with the advice of Zincara[98], which considers that this does not provide evidence to support the proposed timeframe of the projects.

Information provided by Multinet shows that cast iron main fractures have been steadily declining between 2003 and 2011 (see Figure 3.2).

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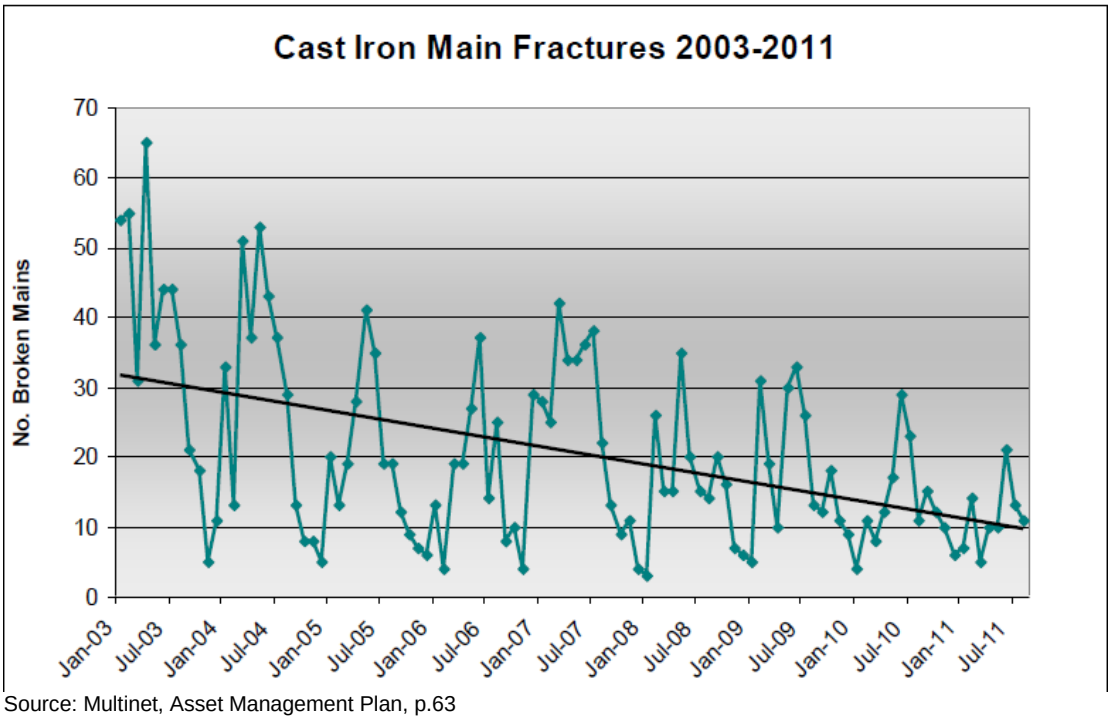
95 AER, *Information request 13 of 8 June 2012*, Question 3, p.1; AER, *Information request 31 of 9 July 2012*, Questions 1-4

96 AER, *Information request 13 of 8 June 2012*, Question 2, p.1

97 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.28-30. (confidential)

98 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.28-30. (confidential)

Figure 3.3 Cast iron main fractures between 2003 and 2011



Source: Multinet, Asset Management Plan, p.63

This information also indicates that Multinet has been able to successfully manage any leaks through a reactive program during the 2008-12 access arrangement period.

The AER accepts that there may be a need for capex for the replacement of particular cast iron mains but without any further evidence, in particular a risk analysis, the AER considers that the expenditure does not meet the r 79(1) criteria. The AER invites Multinet to provide evidence of the need for this capex.

The AER concludes that, on the basis of the evidence provided by Multinet, the large diameter cast iron replacement program is not justified and is not prudent and efficient. Without Multinet providing sufficient justification for the program supported by empirical evidence, the limited information made available to the AER by Multinet otherwise indicates that Multinet is currently able to manage any leaks. The AER therefore does not approve the expenditure for these five projects as they are not prudent under r.79(1)(a) and not justified under r.79(2)(c).

The AER also does not consider that Multinet has provided sufficient evidence to justify the proposed ad hoc replacement expenditure. Furthermore, there was no separate cast iron ad hoc allowance in the past access arrangement decision. The AER therefore does not consider that the ad hoc replacement provision is justified under r.79(2)(c) or prudent under r.79(1)(a).

Low pressure designated zones

Multinet is proposing to change the way it is manages its low pressure network. It created low pressure designated zones (LPDZ) where mains are not expected to be part of the LP to HP

upgrade for at least the next 20 years[99]. Mains will be identified for replacement on the basis of their:

- age profile
- risk profile
- history and supply interruptions[100].

Multinet proposed two programs: the LPDZ large diameter mains replacement and LPDZ small diameter mains replacment LPDZ programs[101].

LPDZ large diameter mains replacement

Multinet proposed a total expenditure of $6.0 million ($2012, direct costs, excluding internal direct overheads) for the LPDZ large diameter mains replacement program for the 2013-17 access arrangement period[102].

LPDZ small diameter mains replacement

Multinet proposed a total expenditure of $4.5 million ($2012, direct costs, excluding internal direct overheads) for the LPDZ small diameter mains replacement program for the 2013-17 access arrangement period[103].

The AER considered the following factors in assessing Multinet's proposed expenditure for LPDZ large and small diameter mains replacement:

- whether the replacement is necessary and the solution is appropriate (that is, whether it the expenditure for the solution is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a))
- whether the proposed timing for replacement is prudent (that is, whether the expenditure for the solution is incurred at such a time as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a))
- whether, from a cost efficiency view point, a like-for-like roll out or LP to HP upgrade is likely to be more efficient in terms of addressing both safety and capacity issues (that is, whether the expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services, as required by r.79(1)(a)).

The AER requested that Multinet provide evidence of why the work needs to be undertaken and why the work needs to be completed in the timeframe proposed[104] but has not received a

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99 Multinet, *Response to Information Request 31 of 9 July 2012*, received 17 July 2012, p.1

100 Multinet, *Response to Information Request 31 of 9 July 2012*, received 17 July 2012, p.1

101 Multinet, *Response to Information Request 18 of 20 June 2012*, received 18 July 2012, Capex Breakdown Projects.xlsx.

102 Multinet, *Response to Information Request 18 of 20 June 2012*, received 18 July 2012, Capex Breakdown Projects.xlsx.

103 Multinet, *Response to Information Request 18 of 20 June 2012*, received 18 July 2012, Capex Breakdown Projects.xlsx.

response from Multinet which provides any additional information to that which was in the original proposal.

The AER accepts the advice of its engineering consultant, Zincara[105], which considers that in the absence of further information supporting the proposed LPDZ program, the mains renewal in these areas should occur under the LP to HP block rollout. Any project to upgrade mains in advance of that rollout needs to be justified from a safety or demand perspective. There is no specific information that the current practice of managing gas leaks is inadequate. There is no specific information which indicates that there is a pressure problem currently.

The AER, without any evidence from Multinet to explain and justify the nature of its work program and the necessity of it, agrees with the conclusions reached by its consultant. Accordingly, the AER does not approve the LPDZ small diameter or the LPDZ large diameter mains replacement programs as they are not necessary as required under r.79(2)(c)(i)-(iii) and are not prudent and efficient as required under r.79(1)(a).

Unplanned service renewal

Renewal of services occurs where services have failed and require urgent replacement (rather than repair).

Multinet proposed an allowance for unplanned service replacement of $9.8 million (($2012, escalated direct costs, excluding overheads) for the 2013-17 access arrangement period.

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

However, the AER considers that given the decline in service numbers which were replaced over the 2008-11 period that the estimate of the service numbers over the 2014-17 access arrangement period are too high. Multinet revised its RIN and capital forecast model estimate of service renewals upwards from 224 in 2013 and between 442 and 447 for 2014-17[106] to 589 per year[107].

The AER considers that the number of services requiring renewal should continue at the levels seen most recently, on the basis that service renewals should continue to decline as the LP to HP mains replacement program continues to roll out at the same rate over 2008-11 (see Table 3.9).

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104 AER, *Information request 13 of 8 June 2012*, Question 3, p.1; AER, *Information request 31 of 9 July 2012*, Questions 1-4

105 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.31-35. (confidential)

106 Multinet, *Response to information request 5 of 18 May 2012*, received 3 July 2012, 'resp 5 capital forecasts.xlsx'.

107 Multinet, Email ' FW: Emailing: unplanned replacement', received 21 August 2012, 'unplanned replacement.xlsx'.

Table 3.9 Multinet's actual service renewal numbers 2008-11 (no.)

	2008	2009	2010	2011	2012	Total
Service renewals (no.)	505	450	483	342	228	1,503

Source: Multinet, *Response to Information Request 13 of 8 June 2012*, received 18 June 2012.

Multinet has not explained why it expects service renewals to double from 2012. The AER therefore does not consider that Multinet's estimate is arrived at on a reasonable basis as required under r.74(2)(a). The AER considers that an appropriate alternative estimate is to use the 2011 number of service renewals undertaken by Multinet and to project that forwards as the annual service renewal volume for 2014-17.

Multinet advised the AER that the unplanned service renewal unit rate is based on the recent tender process. Multinet advised the AER of the unit rate for service renewal in the northern area and the southern area. In clarifying these rates against the provided tender documentation, Multinet advised the AER that in agreement with the tenderers some of the rates were finalised and some were not. The AER requested that Multinet provide the agreement where the parties specify which numbers are not included in the agreed tender process in order to reassure the AER that the numbers it was verifying for the purposes of approving expenditure were in fact agreed. The AER has not received this documentation. Given that Multinet's proposed unit rate for services has varied significantly between information requests for both the northern and southern areas and that there is uncertainty surrounding the finality of the numbers produced as part of the tender process, the AER does not consider that Multinet's estimate is arrived at on a reasonable basis as required under r.74(2)(a).

The AER therefore considers that a reasonable alternative estimate of the unit rate for service renewal is the 2008-11 average unit rate, $1,654/service[108].

The AER therefore approves $2.8 million in total unplanned services renewal for the 2013-17 access arrangement period (see Table 3.10).

Table 3.10 AER approved unplanned service renewal expenditure ($2012, escalated direct costs, excluding overheads)

	2013	2014	2015	2016	2017	Total
Volume (no. of services)	342	342	342	342	342	1,710
Unit rates ($/service)	1,654	1,654	1,654	1,654	1,654	1,654
Total cost ($m)	0.6	0.6	0.6	0.6	0.6	2.8

Source: AER analysis

[108] Multinet, Regulatory Information Notice, March 2012, sheet 2(a); Multinet, *Response to Information Request 13 of 8 June 2012*, received 18 June 2012.

Connections

Distribution businesses have a regulatory obligation to connect residential and commercial/industrial customers to the distribution network upon request. The capex 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 itself.

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

Multinet has forecast expenditure of $108.8 million ($2012, escalated direct costs, excluding overheads) for customer connections capex over the 2013-17 access arrangement period[109]. This amounts to approximately 27 per cent of Multinet's proposed total gross capex forecast.

The AER's approach is to assess total capital expenditure for Tariff V connections by examining 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 the 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 EUCV stated in its submission that there is no real change in cost drivers from the 2008-12 access arrangement period. The allowance sought for 2013-17 should therefore be similar to 2008-12, as opposed to the increase being sought by Multinet.[110] The AER has had regard to the historical cost as an indicator of the efficient costs in the 2013–17 access arrangement period.

The AER approves Tariff V residential total expenditure for the 2013-17 access arrangement period of $61.5 million ($2012, direct costs, excluding internal direct overheads) and Tariff V commercial/industrial total expenditure for the 2013-17 access arrangement period of $4.2 million ($2012, direct costs, excluding internal direct overheads).

The AER does not approve any Tariff D connection expenditure for the 2013-17 access arrangement period.

The AER's assessment of Tariff V and Tariff D connections' assessment is detailed below.

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.

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109 Multinet, *Response to Information Request 5 (incorrectly labelled 'Information request No.3 Q34') of 18 May 2012*, received 7 June 2012, resp 5 capital forecasts.xlsx.

110 Energy User's Coalition of Victoria, Submission to the Victorian Gas Access Arrangement Review, June 2012, p. 21

Volumes

Multinet stated that it based its volume of new connections on NIEIR's modelling of the number of new connections[111]. Multinet projected annual average residential net customer growth of -2.6 per cent over the 2013-17 period and commercial net customer growth of -49.3 per cent over the 2013-17 period[112]. NIEIR project annual average residential gross customer growth of -1.4 per cent and commercial gross customer growth of -0.3 per cent (see attachment 9 for a discussion of the net customer forecasts)[113].

NIEIR does not state how gross connections are forecast from net customer connections in its report. However, Multinet advised the AER that NIEIR used the historical ratio of abolishments to the total number of connections to forecast abolishments[114], which are added to net customer numbers to derive gross customer numbers. The AER requested that Multinet provide the actual ratio applied by NIEIR and the data used by NIEIR to derive the ratio applied[115] as it is unclear over which period the average ratio is being derived. Multinet's response directed the AER towards the numbers in sheet 20 of the RIN[116], which are different to those used by NIEIR.

AER back engineering of the 2013-17 NIEIR numbers shows that it appears that NIEIR is applying a particular ratio for residential customer numbers. However, the AER has been unable to verify that this accords with a reasonable calculation of the historical relationship. The AER is unable to carry out this calculation due to the multiple sets of historical numbers supplied. The ratio is not the same as the average of 2008-11 abolishments to customer numbers using the numbers in sheet 20 of the RIN.

The AER has also attempted to derive the 2013-17 NIEIR ratio for commercial/industrial connections however there is no stable ratio applied by NIEIR over this period. The AER is therefore unable to assess the veracity of the abolishments ratio used.

Given that the AER is unable to verify the veracity of the ratio used by NIEIR for deriving the residential and commercial/industrial gross connections the AER does not consider that Multinet's forecast of gross connections have been arrived at on a reasonable basis as required under r.74(2)(a).

The AER's alternative is to use the 2012 gross connections number provided in the RIN and apply NIEIR's growth rates for 2013-17 to derive estimates of the gross connections numbers for 2013-17.

This results in 3,026 fewer residential connections and 20 fewer commercial/industrial connections.

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111 Multinet, *Access Arrangement Information*, 30 March 2012, p.106

112 Multinet, *Access Arrangement Information: Attachment C-1 NIEIR Energy report*, December 2011, Table 6.1, December 2011, p. 72.

113 Multinet, *Access Arrangement Information: Attachment C-1 NIEIR Energy report*, December 2011, Table 6.1, December 2011, p. 72.

114 Multinet, *Response to Information request 27 of 5 July 2012*, received 7 August2012, Q. 1, p. 1.

115 AER, *Information Request 48 of 14 August 2012*, Q. 9, p. 3.

116 Multinet, *Response to Information request 48 of 14 August 2012*, received 17 August 2012, Q. 9, p. 5.

Unit costs

Multinet stated that Tariff V connection unit cost estimates for the 2013-17 access arrangement period are built up from mains, gas service pipes and meter cost estimates for new estate and existing home residential customers, and commercial/industrial customers.[117]

Multinet provided high level unit rate information at the residential and commercial/industrial connection level. Multinet supplied unit rates disaggregated at the mains, services and meters level.

The AER does not consider the unit rates for the northern area to be arrived at on a reasonable basis, as required under r.74(2)(a) of the NGR and are not prudent and efficient, as required under r.79(1)(a) of the NGR. The AER notes that the internal direct overhead rate applied is significantly higher than industry standard overhead rates. Furthermore, as per the discussion relating to unplanned service renewals above, there is uncertainty whether these rates are final.

The AER has attempted to analyse the unit rates at the mains, services and meters level by using Multinet's total cost and volume information for mains, services and meters.

However, the AER has not been able to map from the NIEIR gross customer numbers to the component mains, services and meter numbers in Multinet's proposal. The number of meters should equal the gross connection volume but is significantly different.

The AER requested that Multinet map the NIEIR customer numbers to the unit rate component volumes but did not receive a response from Multinet which enabled this.

The AER has therefore been unable to verify the veracity of the number of new mains, services and meters in relation to the gross customer numbers. The AER does not consider that the mains, services and meter volumes have been forecast on a reasonable basis as required by r.74(2)(a).

Multinet stated that the unit rates for connections were based on a recent tender process for the outsourcing of its network operations over 2013-17[118].

The AER examined the tender documentation and considers that the tender process was competitive. The AER sought to verify the unit rates derived at the mains, services and meters level from Multinet's total cost and volume information with the unit rates contained in the tender documentation provided by Multinet. The AER was unable to reconcile the derived unit rates with the tendered unit rates. The AER therefore does not consider that the unit rates have been forecast on a reasonable basis as required by r.74(2)(a).

The AER has examined the 2008-12 unit rates provided by Multinet at the residential and commercial connection level[119]. There is no clear trend in the residential connection unit rate. There is a downward trend in the commercial/industrial unit rate, however, the AER considers

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117 Multinet, *Access Arrangement Information: Attachment D-16 Capital Growth Strategy*, 30 March 2012, p. 21

118 Multinet, *Access Arrangement Information*, 30 March 2012, p. 108.

119 Multinet, *Response to information request 5* (Email 'Finalisation of Query 5'), received 3 July 2012, Response 5.xlsx, worksheet 'Q22 and 24'.

that this is likely to be a reflection in the mix of work (given the range in costs of connection depending on the capacity requirements of the business) rather than a clear downward trend in real costs. The AER therefore considers that a weighted average of the 2008-12 unit rates provided by Multinet is an appropriate alternative basis to use to determine the best estimate possible in the circumstances for the 2013-17 unit rates for residential and commercial connections. Accordingly, the AER approves a Tariff V residential connection unit rate of $1,572.44/connection ($2012, direct costs, excluding internal direct overheads) and a commercial/industrial rate of $4,422.25/connection ($2012, direct costs, excluding internal direct overheads).

The AER approves Tariff V residential total expenditure for the 2013-17 access arrangement period of $61.5 million ($2012, direct costs, excluding internal direct overheads) and Tariff V commercial/industrial total expenditure for the 2013-17 access arrangement period of $4.2 million ($2012, direct costs, excluding internal direct overheads).

Large customer connections (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.

Multinet forecast $0.55 million ($2012, direct costs, excluding internal direct overheads) per year in capex for Tariff D 'customer initiated capital' over the 2013-17 access arrangement period. Multinet based its forecast on" recent actual average levels" of Tariff D related customer initiated capital expenditure given the lumpy growth in Tariff D customers[120].

The AER considers that this forecasting approach is consistent with r.74(2) given the variation in the cost and frequency of the connections.

The AER considers that the proposed capex is justified under r.79(2)(c)(iii). However, Multinet did not provide total cost and volume data for Tariff D over 2008-12 in the RIN. The AER requested this data from Multinet.[121] However, Multinet provided volume but no total cost data[122]. On the basis of the information made available to it by Multinet, the AER considers that Multinet did not arrive at the forecast on a reasonable basis, as required by r.74(2)(a). The AER therefore rejects the forecast expenditure of $2.7 million ($2012, direct costs, excluding internal direct overheads).

Given that this category is lumpy expenditure and is typically forecast on historicals, the AER does not have an alternative estimate available to it. The AER therefore does not approve Multinet's Tariff D expenditure. If Multinet is able to provide the necessary information in its revised proposal, the AER will consider that information when making its final decision.

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120 Multinet, *Access Arrangement Information*, 30 March 2012, p. 107

121 AER, *Information request 27 of* 5 July 2012, question 4, p.1.

122 Multinet, *Response to Information request 27 of 5 July 2012*, received 7 August 2012, p. 1.

Recoverable works

Multinet proposed total recoverable works expenditure of $14.2 million ($2012, direct costs, excluding internal direct overheads) for 2013-17. The AER considers that the part of the recoverable works program which is full cost recovered is justified under r.79(2)(c)(i)-(ii).

Given that this program is fully cost recovered, the AER considers that the costs are prudent and efficient on the basis that the transaction is fully paid for by an unrelated party. The AER therefore approves $12.2 million ($2012, direct costs, excluding internal direct overheads) of the recoverable works expenditure.

Multinet stated that the other part of the recoverable works program is an allocation based on 2008-11 actuals[123]. Multinet stated that "Multinet seeks to recover the full cost of the projects under this expenditure category unless there are additional network benefits which may result in a part contribution by Multinet"[124].

The AER does not consider that an allocation is required for recoverable works on the basis that it is, as Multinet states, fully cost recovered. The AER also notes that there are no offsetting customer contributions offsetting the recoverable works. The AER does not consider that the expenditure is justified under r.79(2) and therefore does not approve the residual $1.9 million ($2012, direct costs, excluding internal direct overheads) of the recoverable works expenditure.

Meter replacement

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. [125]

Multinet has split its meter replacement program between capex and opex components. The purchase of new meters is treated as capex. The requirement for purchasing new meters arises from the opex program, which relates to removing the meters from the field and refurbishing the meters. Multinet is not able to refurbish all meters it removes from the field and accordingly must purchase new meters to replace meters which are no longer serviceable. Additionally, Multinet must purchase meters to maintain stock as meters are installed for new customers who join the network.

The AER considered the basis on which Multinet 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:

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123 Multinet, *Response to information request 48 of 14 August 2012*, received 17 August 2012, question 2, p. 1.

124 Multinet, *Response to information request 48 of 14 August 2012*, received 17 August 2012, question 2, p. 1.

125 Services Australia/Services New Zealand, *Gas meters—In service compliance testing AS/NZS 4944:2006*, May 2006.

- Efficiency and prudency of the proposed meter replacement volumes by examining the age of the meters Multinet 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

The AER considers that meter replacement capex complies with rule 79(2)(c)(ii) of the NGR as it is required to maintain the integrity of gas services. However, the AER does not approve Multinet's proposed capital expenditure on its meter replacement program. The AER has examined the volume and unit rate assumptions and does not consider that Multinet's forecast complies with rule 74(2) of the NGR as it has not been arrived at on a reasonable basis. Additionally, the AER does not consider it complies with rule 79(1)(a) of the NGR as it is higher than would be incurred by a prudent and efficient service provider. The AER's draft decision is set out in Table 3.11 and its reasons and analysis is detailed below.

Table 3.11 Multinet's meter replacement capex and AER draft decision ($m 2012)[126]

	2013	2014	2015	2016	2017	Total
Multinet proposal	3.6	3.3	2.4	2.3	2.4	14.0
AER draft decision	2.2	2.2	2.2	2.2	2.2	11.2
Difference	-1.4	-1.0	-0.2	-0.1	-0.2	-2.8

Source: AER analysis

Provision of information

The AER considers that Multinet provided very little information to assess this proposed expenditure in it's AAI. Accordingly the AER requested on approximately 10 occasions additional information to enable it to assess Multinet's proposed capex.[127] The AER received numerous responses from Multinet about its meter replacement capex[128] Despite this volume

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126 Note that this is aggregated across all elements of Multinet's meter replacement program and includes both commercial and residential meters.

127 AER, *information request 5*, 18 May 2012
AER, *information request 16*, 15 June 2012
AER, *information request 22*, 22 June 2012
AER, *information request - Outstanding capex request*, 4 July 2012
AER, *information request 35*, 13 July 2012
AER, *follow-up to information request 35*, 23 July 2012
AER, *information request 44*, 3 August 2012
AER, *follow-up to information request 35 and 44*, 7 August 2012
Additionally, AER staff discussed meter replacements with Multinet on:
Thursday 5 July 2012
Thursday 12 July 2012

128 Multinet, *response to information request 5*, received 4 June 2012, questions 1 and 2.
Multinet, *response to information request 5*, received 5 June 2012, questions 26, 29, 31, 33.
Multinet, *response to information request 5*, received 14 June 2012, questions 27 and 28.
Multinet, *response to information request 16 of 15 June 2012*, received 3 July 2012.

of correspondence, the AER does not consider Multinet was able to provide a cost build-up which was of sufficient quality, or sufficiently well explained for the AER to determine that Multinet's forecast costs comply with rule 74(2) or r 79(1) of the NGR.

The AER notes that in response to AER Information request 35 Multinet acknowledged some inconsistencies in submissions relating to the volume of meters to be removed for repair or replacement.[129] The AER requested Multinet provide an updated capex and opex forecast to account for the correction of these inconsistencies. Multinet provided a model on 7 August 2012.[130] The AER considered that this model contained errors and requested Multinet provide a corrected model. Multinet provided a subsequent model on 8 August 2012.[131] The AER notes that Multinet indicated it was resource constrained and so opted to adjust the model on a pro rata basis.[132]

Cost of new meters (Unit rate)

Multinet's forecasts use a blended unit rate across multiple types of meters to forecast Multinet's meter replacement capex. In response to an AER information request, Multinet provided details of contracts with its suppliers showing the purchase price of each type of new meter.[133] The AER informed Multinet that it had attempted to reconcile these purchase costs with Multinet's volume forecasts and was unable to reconcile Multinet's estimates.[134] The AER also requested justification of the split between the different types of Meter's required by Multinet.[135] Multinet provided an updated spreadsheet, but did not provide a calculation of the unit rate, or justify the split between different meter types.[136] The AER notes that the relative mix of meter sizes and types may significantly influence the blended unit rate forecast by Multinet.

The AER notes that it received updated forecasts of the meter replacement capex on 8 August 2012. However, this used a pro rata adjustment, based on a change in the volume forecasts. As the AER is unable to verify the unit rate in the original model, or the reasonableness of the basis on which it was calculated, the AER does not consider this pro rata adjustment is a reasonable basis on which to forecast Multinet's capex (or opex). In any event, the unit rate applied differs between the spreadsheets provided on 7 August 2012 and 8 August 2012.

The AER did not receive a response to question 22, the required information was provided in response to information request 16.

Multinet, Email to AER consultant (Zincara), *Meter Families being removed 2013 - 2017 - Best Guess*, received 12 July 2012.

Multinet, *Response to information request 35 of 13 July 2012, Emailing: AER meters updated v2,* received 7 August 2012.

Multinet, *Response to follow up on info request 35 of 13 July 2012*, *Follow up to information request 35 and 44 - Meters*, received 8 August 2012.

129 Multinet, *Response to information request 35 of 13 July 2012*, received 20 July 2012.

130 Multinet email, *FW: Emailing: AER meters updated v2, received* 7 August 2012 - Copy of AER meters v2.xlsx.

131 Multinet email, *RE: Vic GAAR - Multinet - Follow up to information request 35 and 44 - Meters, received* 8 August 2012 - Meters finalised.xlsx.

132 Multinet, *Vic GAAR - Multinet - Follow up to information request 35 and 44 - Meters,* received 8 August 2012.

133 Multinet, *response to information request 35 of 13 July 2012*, received 20 July 2012.

134 AER, *follow-up to information request 35*, 23 July 2012.

135 AER, *follow-up to information request 35*, 23 July 2012.

136 Multinet email, *FW: Emailing: AER meters updated v2, received* 7 August 2012 - Copy of AER meters v2.xlsx.

Accordingly, the AER considers that this updated forecast unit rate does not comply with rule 74(2)(a) as there is not sufficient evidence that it has been arrived at on a reasonable basis. Further, due to the lack of substantiation, the AER considers the blended unit rates proposed by Multinet are not prudent or efficient as required under r 79(1)(a).

Volume of meters removed from service

The AER received a number of different sets of information from Multinet regarding the number of meters that Multinet intends to remove from service. This information was inconsistent. Multinet acknowledged these inconsistencies and, in response to AER information request 35, provided updated meter volume forecasts on 20 July 2012.[137] The AER has assessed these updated meter volumes against the rule requirements.

Revised volume forecast

The AER notes that Multinet's revised volume forecasts are based on details of meter families which Multinet considers likely to fail its testing program over the 2013–17 access arrangement period. Multinet stated that the assumptions underlying this forecast were:

- Meters currently extended 5 years at next test are extended 3 then 1 year then fail and are removed the following year.
- Meters currently extended 3 years at next test are extended 1 year then fail and are removed the following year.[138]

The AER considers these assumptions appear reasonable. Further, the AER has examined Multinet's revised volume forecast and notes that the average age at which Multinet is proposing to remove meters is generally in the range of 18 to 25 years. The AER considers this reflects a reasonable average age range for meter 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. The AER notes that Multinet is proposing to remove a number of U6 meters in 2013 at only 8 years of age and this is the driver for the low average replacement age in 2013. However, Multinet stated that these meters are known to be faulty and so the AER considers removing these meters is prudent.[139]

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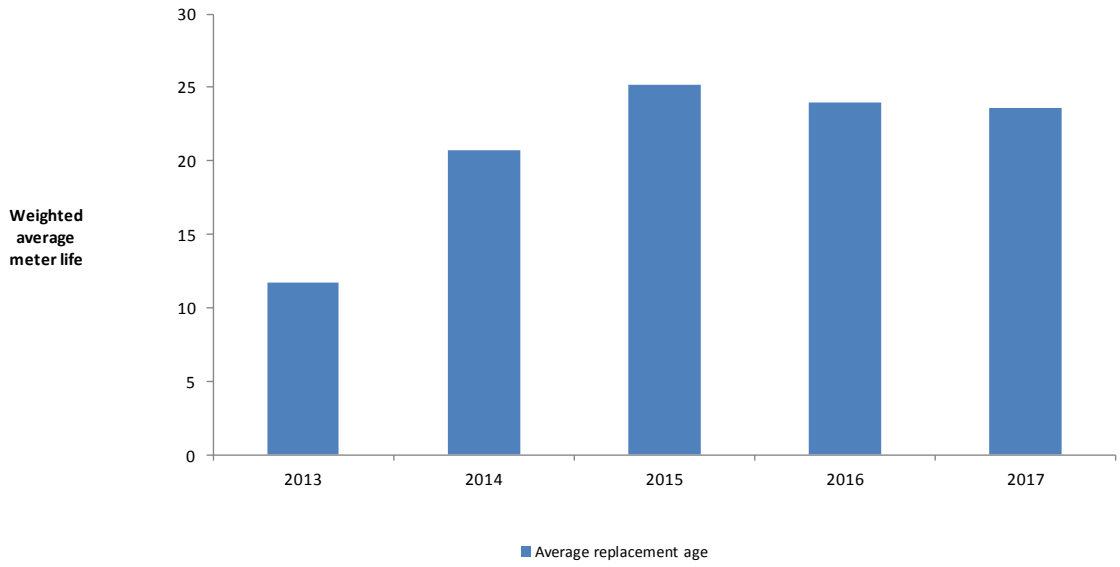
137 Multinet, *Response to information request 35 of 13 July 2012,* received 20 July 2012.

138 Multinet, *Response to information request 35 of 13 July 2012,* received 20 July 2012.

139 Multinet, Email to AER consultant (Zincara), *Meter Families being removed 2013 - 2017 - Best Guess*, received 12 July 2012.

Figure 3.4 Meter replacement – historical and forecast meter age profile



Source: AER analysis

Multinet provided details of the historical number of meter replacements and refurbishments.[140] This indicated that Multinet replaced on average 37,790 meters in the 2008-2012 period.[141] Multinet's updated forecast indicated that on average 37,423 meters will be replaced during the 2013–17 access arrangement period. Multinet's updated forecast also indicated that on average 26,270 meters will be refurbished during the 2013–17 access arrangement period. Finally, Multinet stated that the long term average number of meters it refurbishes is 30,000.[142] As such, the AER considers that the revised replacement and refurbishment forecasts are consistent with the historical average number of meters removed by Multinet. Multinet has also indicated that this is the case.[143]

The AER then considered the proportion of Meters removed which Multinet considers can be refurbished. The AER notes that Multinet assumes it can refurbish 80 per cent of most meter families.[144] However, there are a number of meter families which Multinet considers need to be replaced.[145] As such, Multinet purchases new meters to replace the meters which it cannot refurbish and to account for new connections. The AER has examined these assumptions and considers them reasonable.

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140 Multinet, *response to AER information request 5 of 18 May 2012*, received 14 June 2012 - Metersampletestresults.xlsx.

141 Multinet, *response to AER information request 5 of 18 May 2012*, received 14 June 2012 - Metersampletestresults.xlsx.

142 Multinet, *response to AER information request 35 of 13 July 2012,* received 20 July 2012.

143 Multinet, Email to AER consultant (Zincara), *Meter Families being removed 2013 - 2017 - Best Guess*, received 12 July 2012.

144 Multinet, *response to AER information request 35 of 13 July 2012,* received 20 July 2012.

145 Multinet, *response to AER information request 35 of 13 July 2012,* received 20 July 2012.

The AER considers that Multinet's revised volume forecasts for the number of meters removed, refurbished and replaced have been arrived at on a reasonable basis. As such this revised volume forecast provide the best estimate possible in the circumstances and is reflective of the volume of removals which would be incurred by a prudent and efficient service provider.

Best forecast available

Multinet's forecast volumes appear commensurate with Multinet's historical replacement rate. However, the AER has been unable to verify the reasonableness of Multinet's proposed unit rate. In these circumstances, the AER considers that an average of Multinet's historical expenditure is the best forecast available in the circumstances and so complies with rule 74(2) of the NGR. The AER also considers this expenditure is prudent and efficient and complies with rule 79(1) of the NGR.

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.

Multinet proposed augmentation capex to:

- provide sufficient capacity to accommodate consumer growth requirements
- minimise the loss of supply due to insufficient capacity
- ensure that system security standards and reliability of supply are not adversely affected by growth in peak loads
- provide the upgrading of all distribution mains to high pressure standard
- ensure compliance with the requirements of Government Codes and Regulations[146].

Multinet proposed 31 augmentation projects at a cost of $35.1 million over the 2013–17 access arrangement period.

The AER assessed Multinet's augmentation projects by considering factors relevant to prudency and efficiency including the timing of the proposed works, the capacity benefit which results from the augmentation solution and 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, Zincara[147], examined the business cases and requested further information from Multinet.

Based on the advice of Zincara, the AER considered that nine out the 31 projects, worth $9.1 million ($2012, direct costs, excluding internal direct overheads) unadjusted (or $7.4 million ($2012, direct costs, excluding internal direct overheads) adjusted) were justified. The

[146] Multinet, *Access Arrangement Information*, 30 March 2012, p. 125.

[147] Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.12-23. (confidential)

proposed augmentation solutions are considered necessary in light of forecast connections growth, which is forecast to cause a decline in gas pressure below the minimum regulated pressures.

Based on the advice of Zincara, the AER considers that twenty two projects, worth $25.9 million ($2012, excluding internal overheads), were not justified. In those instances where the modelled pressure does not fall below the regulated minimum, the AER assesses that the augmentation is not necessary and so the expenditure is not justified under r. 79(2)(c). Where the solution does not address the capacity issue, the AER does not consider that the expenditure is prudent and efficient in accordance with r.79(1)(a). If Multinet has information which demonstrates the effectiveness, and thus the efficiency of a project or can provide justification for a project, this should be submitted with its revised proposal and the AER will assess it when making its final decision.

For the ten projects which are justified, the AER considers that the input costs of the augmentation projects are not within a reasonable range, and therefore, do not reflect the costs of a prudent and efficient service provider as required by r.79(1)(a). Multinet applies direct overheads cost which the AER consider, based on the advice of its engineering consultant, Zincara[148], are not within industry standards. Multinet provided no evidence to justify this level of overhead. The AER has adjusted Multinet's unit rates downwards to reflect an efficient level of overheads.

Furthermore, there was a variance between the cost estimate provided in the build up by Multinet for a project to be completed over 2016-17 and the amount included in Multinet's model. As Multinet has not justified the cost basis for the differential between the cost estimate and Multinet's model, the AER considers that the cost differential is not arrived at on a reasonable basis, as required by r.74(2) of the NGR. The AER therefore does not approve the cost differential. The AER has also moved the expenditure into 2016 on the basis that this is when Multinet is proposing to undertake the expenditure in the cost build up provided.

For the same project, the AER also sought information regarding a cost component worth a total of $375,000 ($2012, direct costs, excluding internal direct overheads) which was detailed in a cost build up spreadsheet provided by Multinet[149]. However, Multinet responded that it could not identify the cost component in its spreadsheet[150]. Without confirmation from Multinet that this component is to be included in the spreadsheet or that the estimate has been arrived at on a reasonable basis, the AER considers that this expenditure does not conform to the requirements of r 74(2) and is not justified under r 79(2).

The AER therefore approves $7.4 million ($2012, direct costs, excluding internal direct overheads) out of the total proposed capital expenditure of $35.1 million ($2012, direct costs, excluding internal overheads).

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[148] Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, p.22. (confidential)

[149] AER, *Information Request 48 of 14 August 2012*, Question 10, p.3

[150] Multinet, *Response to Information Request 48 of 14 August 2012*, received17 August 2012, Question 10, p.5

Information Technology (IT)

Multinet's IT capital plan is aimed at delivering the IT capabilities required to increase efficiency and transparency across business functions, and therefore support better management of the network, assets, stakeholders and internal business functions.

The AER's decision is to approve $35.6 million ($2012) of Multinet's proposed IT capex of $46.9 million ($2012) for the 2013-17 access arrangement period.

Multinet did not specify the particular sections of r.79(2) under which it considers the IT capex is justifiable. However, Multinet stated a number of benefits it sought from its IT capital plan, including

- streamlining processes across business functions
- increasing the capacity to manage, monitor and respond to network issues and disruptions
- improving asset management capability
- facilitating response to market and regulatory changes.[151]

The AER assessed the IT capex by considering the justification and efficiency of the proposed expenditure. In undertaking this assessment the AER examined Multinet's strategy documents, considered historical costs, sought advice from its consultant, Nous Group, and requested further information from Multinet.

Nous Group's review of Multinet's IT program found that[152]:

- Allocations for contingency and risks were above efficient levels, based on industry standards for a prudent business. Nous Group accordingly recommended that these allowances be consolidated into a single allowance and reduced the allowance for the majority of the IT projects.
- The GIS Strategy and GE Smallworld Upgrade, and Data Warehouse Enhancement projects[153] were found to be necessary but excessively costed for the scope of work proposed. Nous Group recommended revised capex allowances for these projects to reflect an efficient level of expenditure, consistent with good industry practice.

Having regard to Nous Group's advice, the AER accepts that Multinet's IT programs are justified in terms of maintaining the safety and integrity of its network under r.79(2)(c)(i) and (ii). However, the AER accepts its consultant's advice and, as a result, considers that the above elements of Multinet's proposed IT capex do not comply with r.79(1)(a) or r.74(2)(b). The AER considers that Multinet's cost forecasts were not the best possible in the circumstances and are above the efficient level that would be incurred by a prudent service provider.

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151 Multinet, *Access Arrangement Information*, 30 March 2012, p. 133.

152 Nous Group, *Victorian gas distribution access arrangement 2013-17: Review of IT expenditure, Final Report*, confidential to Multinet, 25 August 2012.

153 Multinet, *Access Arrangement Information*, 30 March 2012, p. 133.

After adjustments, the AER approves $35.6 million ($2012) of Multinet's IT capex as conforming under r.79(1).

SCADA

Multinet's Supervisory Control and Data Acquisition (SCADA) systems are used to control and monitor field equipment such as city gates, field regulators and fringe points remotely via Remote Telemetry Units (RTUs). Multinet proposed capex of $7.4 million ($2012 direct cost) for SCADA for the 2013-17 access arrangement period. The AER's decision is to approve $1.0 million as conforming capex.

Multinet's SCADA capex comprises two categories:

- central IT-related SCADA
- SCADA field equipment

These are considered separately below.

IT-related SCADA

Multinet proposed a total of $5.3 million ($2012 direct cost) of capex for IT-related SCADA.

In assessing the IT-related SCADA, the AER sought the advice of the Nous Group.

Nous Group's review of Multinet's IT-related SCADA found that:

- The SCADA system replacement scheduled for 2013 is justified to maintain the integrity of services. However, the allocations for contingency and risks were above efficient levels, based on industry standards for a prudent business. Nous Group accordingly recommended that these allowances be consolidated into a single allowance and reduced the allowance for the majority of the IT projects.
- The SCADA Separation and Upgrade (Sovereignty) project[154] and related support projects were found to be scheduled too early for efficient use of these assets. Nous Group recommended that this project be deferred to the next access arrangement period.

Having regard to the Nous Group's analysis, the AER considers that the SCADA separation project and the related SCADA infrastructure upgrade projects are not efficient or justified under r. 79(1) of the NGR.

The AER therefore does not approve the projects related to the SCADA Separation and Upgrade (Sovereignty) project, but approves $0.6 million capex for the SCADA system replacement[155].

SCADA equipment

Multinet outlined projects totalling $2.1 million for SCADA augmentation for the 2013-17 access arrangement period in the Performance category in its capex model which was

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154 Multinet, *Access Arrangement Information, 30 March 2012,* p.133

155 Multinet, *Access Arrangement Information, 30 March 2012*, p.135

reconciled to its RIN response.[156] As the SCADA Strategy[157] provided the most detailed justification of Multinet's planned expenditure, the AER assessed Multinet's proposed SCADA equipment on the basis of the SCADA Strategy document.

The projects proposed by Multinet in its SCADA Strategy include:

- Kingfisher RTU replacement
- Additional RTUs Radio upgrade- D to E series[158].

Multinet did not specify the particular sections of r.79(2) under which it considers the SCADA capex is justifiable. Multinet stated that the use of SCADA allows its operators to monitor its network and reduces the operating cost and risks associated with operating a gas distribution network.[159]

The AER assessed the SCADA projects by considering the justifications for the proposed works, and whether the unit costs represent the efficient, lowest sustainable cost of a prudent service provider. In undertaking this assessment the AER examined Multinet's strategy documents, received advice from its engineering consultant, Zincara[160], and requested further information from Multinet.

Replacement of RTUs

Multinet stated that the present population of 241 RTUs are approaching end of life and showing signs of intermittent faults. It began a project in 2011 to upgrade and replace the oldest RTUs located at critical regulator sites. Multinet submitted that it would select 50 sites for replacement in the next regulatory period. However, it provided no justification for this number of replacements.

The AER sought data on failure rates by age of these RTUs. Multinet stated that it currently has insufficient data relating to Kingfisher Series II RTU failure rates. The historical failure rate data did not support replacement of the RTUs.

However, Multinet responded that the forecast replacement is not justified on the basis of the historical failure rate but on prudent replacement to mitigate end of life failures and a bow wave impact in terms of failure rates.[161]

Based on the advice of Zincara[162], the AER considers that Multinet has not provided adequate evidence of a need for proactive replacement of functioning RTUs in terms of safety, as opposed to continuing with a strategy of replacing them as they fail or through opportunistic

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156 Multinet, *Response to information request 13 of 8 June 2012*, received 31 July 2012, Q.13, 'Capex Breakdown Projects PB PJ.xlsx'. Capex in the SCADA and Remote Terminal Costs category in Multinet's RIN (Table 4.1) related to IT-related SCADA.

157 Multinet, *Access Arrangement Information: Appendix D-2, SCADA Strategy, July 2012 – June 2018*, 30 March 2012 (Confidential), Table 7-1, p. 17. The amounts in Multinet's SCADA Strategy were by financial year; the AER averaged these to estimate the amounts by calendar year for the period 2013–17.

158 Multinet, *Access Arrangement Information, 30 March 2012,* pp.129-131.

159 Multinet, *Access Arrangement Information, 30 March 2012*, p.130.

160 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.36-42. (confidential)

161 Multinet, *Response to information request 22 of 22 June 2012*, received 2 July 2012, Question 3, p. 2. (confidential); and follow-up in Multinet, *Response to information request 29 of 6 July*, Q.3.

162 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.37-38. (confidential)

replacement during site upgrades. The current Kingfisher series II RTU is still supported by the manufacturer.[163] The AER understands that failure in an RTU can be detected by the control room and should not create a safety problem.[164] In addition, Multinet has not demonstrated the economic efficiency of proactive replacement, for example through evidence that the financing costs of earlier investment are outweighed by the cost savings from opportunistic replacement. Further, the economic replacement of RTUs in the next regulatory period (2018–2022) will address the issue of a bow wave impact compared to a breakdown or opportunistic replacement. The AER therefore does not consider that the total capex proposed for this project is justifiable under r.79(2) (i) or (ii) or complies with r.79(1)(a).

Additional fringe RTUs

Multinet provided information on the locations and justification for additional RTUs. This involved installation or relocation of fringe RTUs to new low pressure points as the load distribution changes with expanded boundaries, increased demand, new loads or augmentations.[165]

Based on the advice of Zincara[166], the AER accepts that some of the proposed locations are justified to maintain the integrity of the system under 79 (2)(c)(ii), and the unit costs are efficient. The AER does not consider that the capex for the residual RTUs is justifiable under 79 (2)(c)(ii) because:

- for certain locations, the change in load is not expected until 2018 -and
- there is insufficient evidence of the demand changes that would justify the expenditure. -

The AER therefore approves $0.16 million ($2012, direct cost) for additional fringe RTUs.

Radio upgrade

Multinet proposed to upgrade its radio RTUs from D series Trio radios to E series.

Based on the advice of Zincara[167], the AER considers that the selective upgrade is prudent and efficient and is justified under r.79(2)(c)(ii). The AER approves capex of $0.23m ($2012, direct cost) for this item.

Other SCADA projects

Multinet proposed capex of $0.31 million ($2012) for three other SCADA projects. The AER does not approve any of the expenditure as Multinet has not provided sufficient evidence that the expenditure is justified under r.79(2).

Based on the above assessment, the AER approves $0.39 million ($2012, direct costs) of Multinet's proposed SCADA equipment capex as conforming capex.

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163 Multinet, *Access Arrangement Information: Appendix D-2, SCADA Strategy, July 2012 – June 2018*, 30 March 2012, p.8 (Confidential)

164 Multinet, *Access Arrangement Information: Appendix D-2, SCADA Strategy, July 2012 – June 2018*, 30 March 2012, p.11 (Confidential)

165 Multinet, *Response to information request 22 of 22 June 2012*, question 4, received 2 July. (Confidential)

166 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, pp.38-40. (confidential)

167 Zincara, *Review of Multinet's Capital Expenditure*, 21 September 2012, p.40. (confidential)

The conforming capex approved by the AER for the total of IT-related SCADA and SCADA equipment is $1.0 million ($2012).

3.3.3 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.

Multinet proposed one capex project in the 'other non-demand' category. However, the AER considered that 25 additional projects actually fit in the other non-demand category and assessed them as other non-demand expenditure. Accordingly the AER considers that there were 26 projects which fit in the other non-demand category of capital expenditure, with a total proposed expenditure of $46.1m ($2012).

The AER approves $32.4m ($2012) in 'other non-demand' capex' over the 2013–17 access arrangement period. The AER does not approve $13.7m ($2012) 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 the relevant rule requirements for the reasons set out below. This is a reduction of 30 per cent from Multinet's proposed 'other non-demand capex' of $46.1m ($2012). The proposed and approved capex allowances for each project is set out in confidential appendix A.

Table 3.12 Multinet's Other-non demand Capex proposal ($million, 2012)

	2013	2014	2015	2016	2017	Total
Multinet proposal	17.7	7.1	6.1	9.0	6.2	46.1
AER draft decision	14.9	4.7	3.1	6.1	3.6	32.4
Difference	-2.7	-2.4	-3.0	-3.0	-2.6	-13.7

Source: AER Analysis

Other non-demand 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 Multinet's submission:

- Appendix D-3 Supply Regulator Strategy
- Appendix D-4 Above Ground Supply Regulators Strategy
- Appendix D-15 Large Consumer Regulator Strategy
- Appendix D-11 Transmission Pipelines Strategy
- Appendix D-14 Gas Heater Strategy
- Appendix D-8 Corrosion Protection Strategy
- Appendix D-9 Distribution Valves Strategy

In assessing these projects the AER examined the information provided by Multinet and where required requested further information from Multinet.

The AER notes that it was unable to reconcile Multinet's business cases with the higher level capex forecasts that Multinet provided. The AER requested this information on:

- AER information request 13 – 8 June 2012
- AER information request 18 – 20 June 2012.
- AER information request 18 – follow up – 25 July 2012

The AER received a partial reconciliation on 18 July 2012.[168] The AER requested the remainder of the reconciliation and received this on 31 July 2012.[169] The AER notes that the difficulty in reconciling the capex forecasts and business cases arises for the following reasons:

- Not all capex forecasts appear to reconcile with Multinet's business cases.
- There are ad-hoc adjustments in the reconciliation for which no explanation was provided.
- The manner in which Multinet has allocated costs from financial to calendar years has not been done on a consistent basis and no explanation of the methodology or reasons for these allocations was provided in the AAI or subsequent reconciliations.

The AER has based its assessment of the following projects based on the information available to it, some of which is inadequate of the purpose of substantiating consistency with the relevant rule requirements.

Projects that comply with the NGR

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 and are justifiable under rule 79(2) of the NGR.

- Obsolete Regulator Replacement
- Non-compliant fittings
- Heater replacements (Vortex)

Projects that do not comply with rule 74 of the NGR

The AER considers that the forecast capex for the following projects does not represent the best estimate possible in the circumstances. As such the proposed capex does not comply with Rule 74(2) of the NGR for the reasons set out below. However, the AER otherwise

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168 Multinet, *Response to information request 18 of 3 July 2012*, received 18 July 2012, Map capex codes to RIN.xlsx.

169 Multinet, *Email " Capex projects follow up" of 31 July 2012*, Capex Breakdown Projects PB PJ.xlsx,

considers these projects comply with r 79 of the NGR and so has approved capex based on its alternative forecast.

- Environmental Noise Improvement
- Equipment Enclosures
- Corrosion protection
- Other - Property
- Hydraulic Regulator Replacement
- District Regulator Replacement
- Rectification for pigging

The AER's considers these projects do not comply with rule 74(2) of the NGR for a variety of reasons.

In relation to Environmental Noise Improvement and Equipment Enclosures, Multinet indicated that the forecast capex was based on historical expenditure. However, the AER considers that the historical expenditure was lower than the forecast capex. Therefore the forecast capex does not comply with rule 74(2)(a) of the NGR as it has not been arrived at on a reasonable basis. The AER considers an average of historical expenditure is the best estimate available in the circumstances.

In relation to Corrosion protection and Other - Property, the AER considers that the forecast capex in Multinet's capex forecast model[170] does not reconcile with the relevant business case or Board document provided to support this forecast. Therefore the forecast capex does not comply with rule 74(2)(a) of the NGR as it has not been arrived at on a reasonable basis as it is not supported by the evidence provided by Multinet. However, the AER examined the costing in the business case and Board documents and considered the forecasts contained in these documents are a reasonable estimate. As such, the AER has approved the lower capex forecasts contained in the business case and Board document.

In relation to Hydraulic Regulator Replacement, District Regulator Replacement and Rectification for pigging, the AER does not consider that the proposed level of overheads has been arrived at on a reasonable basis as required by r.74(2). The AER considered the level of overheads used by other distribution businesses and several of Multinet's contractors and considers the assumption was too high. As such, the AER has approved a lower capex forecast after taking into account what the AER considers to be a reasonable overhead rate.

Detailed discussion of the projects and the AER's reasons for not approving this proposed expenditure is contained in confidential appendix A.

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[170] Multinet, *response to Information Request 5*, received 3/7/12, resp 5 capital forecasts.xls

Projects that do not comply with rule 79 of the NGR

The AER considers that the following projects do not comply with rule 79(1) or 79(2) of the NGR. The AER considers that either these projects would not be undertaken by a prudent and efficient distribution business or that they are not justifiable under any of the conditions of rule 79(2) of the NGR.

- Above ground supply regulators
- Large consumer regulators
- Telemetry units for Cathodic protection systems (CPS)
- Syphon removal
- John valve rectification

The AER's considers these projects do not comply with rule 79 of the NGR for a variety of reasons:

- In relation to Above ground supply regulators, the AER considers that one particular project would not be undertaken by a prudent and efficient distribution business. Multinet proposed to underground the supply regulator due to an encroachment issue. However, the AER understands that the third party developer, who may be encroaching upon the supply regulator has taken appropriate risk mitigation steps. As the risk appears to have been mitigated, the AER does not consider this project would be undertaken by a prudent and efficient service provider. The AER does not consider this project complies with rule 79(1) or 79(2) of the NGR.

- In relation to Large consumer regulators, the AER considers that Multinet is proposing to undertake a rationalisation of regulator models, which would not be undertaken by a prudent and efficient business. The AER considers that a prudent and efficient service provider would not remove working equipment from its network unless there was a demonstrated economic, safety or regulatory need to do so. The AER does not consider that Multinet has demonstrated that this is the case. The AER does not consider this project complies with rule 79(1) or 79(2) of the NGR.

- In relation to telemetry units for CPS, the AER considers that Multinet has not demonstrated that its current monitoring approach is insufficient and so does not consider the capex to ehnance its monitoring would be incurred by a prudent and efficient business. The AER does not consider this project complies with rule 79(2) of the NGR.

- In relation to Syphon removal and John valve rectification, the AER considers that a prudent and efficient distribution business acting to achieve the lowest sustainable cost of providing services would implement an inspection program to ascertain the condition of these network assets. It may be prudent and efficient to remove any of these assets identified as being faulty or suffering corrosion. However, as Multinet has not ascertained the condition of the syphons on its network. The AER does not consider it prudent or efficient to remove a large number of network assets without first ascertaining the condition of the assets. The AER does not consider this project complies with rule 79(1) or 79(2) of the NGR.

Detailed discussion of the projects and the AER's reasons for not approving this proposed expenditure is contained in confidential appendix A.

Internal capitalised labour - direct overheads

Multinet stated that no indirect overheads are capitalised[171].

However, Multinet proposed capitalising $16.4 million ($2012, direct cost) of its labour as direct capital overheads.

These labour costs were not presented in the RIN or discussed in Multinet's proposal. The AER only became aware of them when it requested a model from Multinet which would allow individual project costs to be reconciled to the RIN and AAI amounts being proposed[172].

The AER considers that there is no new regulatory obligation which is driving the proposed capital expenditure. The AER understands that the proposed capex is a result of Multinet's business restructure, with a shift from out-sourcing functions to in-sourcing. The AER therefore considers that there should be commensurate cost savings associated with no longer out-sourcing these functions.

The AER therefore does not approve the $16.4 million ($2012, direct cost) for internal labour on the basis that it is not justifiable under r.79(2) and not prudent and efficient under r.79(1)(a).

Indirect overheads

Multinet did not propose any indirect overhead expenditure for the 2013-17 access arrangement period[173].

Customer and government contributions

Multinet proposed customer and government contributions for specific capital expenditure categories worth $20.7 million ($2012).

The AER approves these contributions on the basis that they are justified under r.79(2) and prudent and efficient under r.79(1).

Material and labour escalation

Multinet did not propose any material and labour escalation for the capital expenditure for the 2013-17 access arrangement period.

3.3.4 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

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171 Multinet, *Response to information request 5 of 18 May 2012*, received 4 June 2012, Question 13, p.4

172 Multinet, *Response to information request 5 of 18 May 2012*, received 7 June 2012, 'resp 5 capital forecasts.xls'

173 Multinet, Email 'Request 5' (*Response to Information Request 5 of 18 May 2012*), received 4 June 2012, Q13, p.4.

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.[174] This method was amended in the AER's decisions for the ACT, NSW and Tasmanian electricity service providers.[175] The AER has applied this method in subsequent decisions for other electricity and gas service providers.[176] This approach has recently been further refined, as discussed and applied in the Powerlink final decision and in this draft decision.[177]

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.[178] 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 dollar terms and totalled to determine the equity component for the entire access arrangement period.

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174 ACG, Estimation of Powerlink's SEO transaction cost allowance–Memorandum, 5 February 2007

175 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.

176 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.

177 AER, *Final decision Powerlink Transmission determination 2012–13 to 2016–17*, April 2012, p. 151-2.

178 ACG, Estimation of Powerlink's SEO transaction cost allowance–Memorandum, 5 February 2007

- 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 AER[179] and ACG,[180] and subsequently reviewed.[181]

The total benchmark equity raising cost is then amortised over the weighted average standard asset life of MultiNet'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.

MultiNet 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.[182] MultiNet's

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179 Final decision, TransGrid transmission determination 2009–10 to 2013–14, April 2009, pp. 233–244.

180 ACG, Debt and Equity Raising Transaction Costs, Final Report to the Australian Competition and Consumer Commission, December 2004, p xiii, 65.

181 Handley, *A note on the cost of raising debt and equity capital,* April 2009.

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 MultiNet made its proposal).

After considering the equity raising costs proposed by Powerlink for its 2012–17 access arrangement, the AER modified its 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 arranging 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.[183] 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 reflects the external equity that is forecast to be required.[184] The AER considers this updated method more appropriate and provides a better benchmark for equity raising costs. The AER will therefore require MultiNet to incorporate this adjustment.

The AER has applied the updated ACG equity raising method to estimate the indicative costs and total allowance for MulitNet. Based on the AER's method, the cash flow analysis calculated in the PTRM for MultiNet's benchmark equity raising cost is shown in Table 3.13 and Table 3.14. Table 3.13 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 3.14. These tables demonstrate that MultiNet does not require an equity raising cost allowance based on the amount of forecast capex.

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 MultiNet requires no benchmark equity raising costs.

Table 3.13 AER's final decision cash flow analysis for MultiNet benchmark equity raising cost ($million, nominal)

Cash flow analysis	Total ($million, nominal)	Notes
Dividends	60.31	Set to distribute imputation credits assumed in the PTRM (70 per cent).
Dividends reinvested	18.09	Availability of reinvested

182 MultiNet PTRM.

183 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 31 to 45 of the 'Equity raising cost-capex' tab in the AER's final decision PTRM for MultiNet.

184 AER, *Final decision Powerlink Transmission determination 2012–13 to 2016–17*, April 2012, p. 151-2.

		dividends, capped at 30% dividends paid.
Capex funding requirement	188.13	Forecast capex funding requirement (including half year WACC adjustment).
Debt component	48.27	Set to equal 60% of annual change in RAB.
Equity component	139.85	Residual of capex funding requirement and debt component.
Retained cash flow available for reinvestment	178.56	Exclude dividends reinvested.
Equity required	-38.71	Equals equity component less retained cash flows.

Source: AER analysis.

Table 3.14 AER's final decision cash flow analysis for MultiNet benchmark equity raising cost ($million, 2012–13)

Cash flow analysis	Total ($million, 2012–13)	Notes
Equity component	129.74	Residual of capex funding requirement and debt component.
Retained cash flow available for reinvestment	167.08	Exclude dividends reinvested.
Equity required	-37.34	Equals equity component less retained cash flows.
Dividends reinvested	16.73	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 access arrangement period.

Source: AER analysis

3.4 Revisions

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

Revision 3.1: Make all necessary amendments to reflect the AER's draft decision on opening capital base for the access arrangement period, as set out in table 3.1.

Revision 3.2: 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 3.2.

4 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.[185]

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

4.1 Draft decision

The AER does not approve Multinet's proposed (indicative) rate of return of 9.1 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 meets the criterion of the NGR.[186]

Multinet's proposed rate of 9.1 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. Multinet'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 Multinet'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. Multinet'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 for the final decision) provides Multinet with a reasonable opportunity to recover at least the efficient costs of capital financing. Consequently, the AER expects Multinet 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.[187]

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

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185 NGR, r. 87.

186 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.

187 The AER recognises Multinet's concern that the regulated cost of capital may not be sufficient to attract funds for its pipeworks program during the current access arrangement period. For the reasons discussed in this attachment, the AER considers a rate of return of 7.16 provides Multinet with a reasonable opportunity to recover at least the efficient costs of capital financing.

- 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
- 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 analysis[188]
- 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 Multinet'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 4.3.2.

Table 4.1 sets out the individual WACC parameters and consequent (indicative) rate of return determined by the AER.

Table 4.1 AER's draft decision on Multinet's rate of return (nominal)

Parameter	Multinet 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%

188 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.

Inflation forecast	2.5% [a]	2.5% [a]
Gamma	0.25	0.25
Nominal post-tax cost of equity	10.80% [a]	7.78% [a]
Nominal pre-tax cost of debt	7.91% [a]	6.74% [a]
Nominal vanilla WACC	9.1% [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).[189] However, the rate of return in this decision for Multinet 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 Multinet 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.[190] Hence, the AER and Multinet agree that this reduction reflects changing conditions in the market for funds. This provides the AER with a degree of comfort that a fall in the overall rate of return, in itself, is not unreasonable.

Multinet'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 Multinet 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

[189] 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).

[190] 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)

- Fixed principles on the rate of return in Multinet's access arrangement
- 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.[191] It is also consistent with the AER's approach in previous decisions.[192] The AER thus applied this approach in making its draft decision on Multinet's rate of return.

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191 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.

192 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)..

Rule 87 is a full discretion provision. This means the AER may, but is not bound to, approve Multinet's proposed rate of return if that rate complies with, and is consistent with, the NGL's and NGR's requirements and criteria. The AER has the discretion to withhold its approval 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.[193]

If the AER does not approve Multinet'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.[194]

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.[195] Either the AER's approval or withholding of its approval of Multinet'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.

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193 NGR r. 99 (3).
194 NGR r. 64(2).
195 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.[196] The rate of return is such a part, so the AER must account for the following[197]:

- 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, Multinet proposed the WACC approach, weighted 40 per cent to equity and 60 per cent to debt. Multinet 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 Multinet'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 Multinet to determine the cost of equity and debt are also well accepted.[198]

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 Multinet'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. Multinet'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 Multinet's access arrangement are binding on both Multinet and the AER for the period over which they are fixed.[199] Revoking the fixed principle removes the inconsistency between Multinet's fixed principle and

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196 NGL s. 28(2)(a)(i)

197 NGL, s. 24.

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

199 NGR r. 99(3).

its access arrangement proposal. Accordingly, the AER revokes the fixed principle in clause 7.2(4) of Multinet'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 Multinet's proposed approach for calculating the risk free rate for the cost of debt but not the cost of equity. (Multinet provided the AER with an averaging period on a confidential basis.) The approach for the cost of debt 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.[200] 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 businesses[201] 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.[202] For these

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200 NGR, rule 87(1)); Section 1.3.1 below contains evidence for why this approach is consistent with the rules.

201 See, for example, Officer B. and Bishop S., *Market risk premium, a review paper*, August 2008, pp. 3–4.

202 See, for example, Mehra R. and Prescott E.C., "The equity premium, a puzzle", *Journal of Monetary Economics*, 15, 1985, pp. 145–61; Damodoran A., *equity risk premiums (ERP), determinants, estimation and*

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.[203]

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 Multinet's proposed MRP of 6 per cent.[204] 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.[205]

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.

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i*mplications*, September 2008, p. 1; Doran J.S., Ronn E.I. and Goldberg R.S., *A simple model for time-varying expected returns on the S&P 500 Index*, August 2005, pp. 2–3.

203 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 4*, 11 January 2012, paragraph 146.

204 Multinet, *Multinet's gas arrangement review 2013-2017*, March 2012, p. 154.

205 Michael McKenzie and Graham Partington, Report to the AER, Estimation of the equity beta (conceptual and econometric issues) for a gas regulatory process in 2012, 3 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.[206] 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 Multinet.

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.[207] 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.[208] Prior to the implementation of this approach in a final decision, however, the Tribunal released its decision for the Envestra and APT Allgas reviews.[209] 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.[210] 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.

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206 AER, *Final decision: APTPPL access arrangement*, August 2012. .

207 AER, *Draft decision: Powerlink; Transmission determination*, November 2011, pp. 225–229.

208 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.

209 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.

210 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.[211] These decisions upheld the use of the 'bond-yield approach' adopted by the ERA.[212] 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.[213] The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.[214] The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.[215] Such a weighted average was implemented by the ERA on remittal.[216]

If the bond-yield approach (with the weighting method adopted in the ERA's revised decision) was applied to Multinet, the DRP would be 2.72 per cent.[217] This is below the DRP of 3.82 per cent derived using the extrapolated Bloomberg fair value curve (as per Multinet's proposed method).[218]

Additionally, the AER has observed recent bond issues from firms which have similar characteristics to the benchmark firm. These are shown in Table 4.2, below:

Table 4.2 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 JUN 2012	205	Fixed	10	5.95	2.96
Powercor Australia	19 APR 2012	200	Fixed	5	5.80	2.51
United Energy	3 APR 2012	200	Fixed	5	6.50	2.95

211 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.

212 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.

213 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+).

214 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.

215 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.

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

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

218 This estimate reflects the paired bonds extrapolation sample proposed by Multinet.

Distribution						
ETSA Utilities	1 MAR 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. The AER, however, does not expect to implement any new method in time for Multinet'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.[219]

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

[219] 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.

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 Multinet'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, Multinet, 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, Multinet proposed adopting the extrapolated Bloomberg fair value curve to estimate the DRP.[220] This results in a DRP of 3.76 per cent based on current market data.[221] The other Victorian gas service providers also proposed this approach.[222] BHP Billiton considered this method was appropriate but also considered there was merit in the AER exploring alternative methods.[223]

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).[224] 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.[225] Under this approach the DRP is estimated by averaging observed

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220 Multinet, *Access arrangement submission: Part A*, 30 March 2012.

221 This estimate reflects the paired bonds sample proposed by Multinet.

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

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

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

225 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

bond yields that meet certain criteria.[226] The Tribunal did, however, direct the ERA to amend the simple averaging process used to aggregate these bond yields.[227] The Tribunal also provided guidance on the relevance of various criteria and the use of a more complex weighted average.[228] Such a weighted average was implemented by the ERA on remittal.[229] If the bond-yield approach (with the weighting method adopted in the ERA's re-determination) was applied to Multinet, the DRP would be 2.72 per cent.[230]

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.[231]

Taking Multinet's proposal and the submissions from stakeholders together, the AER considers that the rate of return in this draft decision (subject to updating) meets the criterion of the NGR.

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.[232]

MultiNet proposed to use the Sharpe Lintner CAPM to determine the cost of equity.[233] MultiNet, 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.[234] The AER accepts MultiNet'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

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Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd* (No 3) [2012] ACompT 14, 26 July 2012, paragraphs 280–282, 287.

226 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+).

227 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.

228 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.

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

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

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

232 AER, Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters, 1 May 2009, p. 335.

233 MultiNet, Access arrangement information, 30 March 2012, p. 157.

234 MultiNet, Access arrangement information, 30 March 2012, p. 156, 167-9,

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 Multinet's proposed method for estimating the risk free rate for the cost of debt.[235] The AER does not agree with Multinet's proposed method for estimating the risk free rate for the cost of equity.[236] 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)[237]
- the RBA advised 'CGS yields are the most appropriate measure of a risk free rate in Australia'.[238]

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:

- 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.[239]

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235 Multinet, *Access arrangement information*, March 2012, pp.172-173.

236 Multinet, *Access arrangement information*, March 2012, pp. 163-167. .

237 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). .

238 Reserve Bank of Australia, *Letter to the ACCC: The Commonwealth Government Securities Market*, 16 July 2012, (RBA, *Letter regarding the CGS market*, July 2012)..

- 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.[240]

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'.[241]

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.[242]

The spreads between CGS yields and the yields on other Australian dollar denominated securities have widened in recent years.[243] 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.[244]

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.[245]

Further, the RBA and Australian Treasury advised the ACCC on two occasions that the CGS market is liquid and functioning well.[246] The ACCC sought the first set of advice (received August 2007)[247] in response to a NERA report submitted by SP AusNet. Both the RBA and

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

240 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).

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

242 Standard and Poor's, viewed 17 August 2012, www.standardandpoors.com/prot/ratings/entity-ratings/en/au/?entityID=268976&sectorCode=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

243 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

244 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

245 Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 116.

246 '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.

247 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.

Australian Treasury at that time suggested nominal CGS yields were an appropriate proxy for the risk free rate.[248] On the other hand, both suggested indexed CGS yields were unlikely to provide an appropriate proxy for the real risk free rate.[249] The AER subsequently ceased using indexed CGS to determine inflation expectations.[250]

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 2012[251]
- repurchase ('repo') margins. The 'repurchase agreement rates on CGS do not indicate any degree of 'tightness''.[252]

A recent speech by Rob Nicholl, chief executive officer of the AOFM, also supported the conclusion that the CGS market is liquid.[253] His comments suggested the AOFM has confidence that the CGS market is "resilient and highly functional".[254]

Further, the Australian Government has a policy of issuing sufficient CGS to ensure liquidity in the market.[255] 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.[256]

The liquidity of the CGS market provides the AER with confidence that market prices accurately reflect investor expectations and market conditions.

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248 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.

249 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.

250 AER, *Final decision: SP AusNet Transmission determination - 2008-09 to 2013-14*, January 2008, p. 12.

251 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

252 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

253 Rob Nicholl, *After the Storm - Does it Get Easier?*, Australian Business Economists Speech, Sydney, 22 May 2012.

254 Rob Nicholl, *After the Storm - Does it Get Easier?*, Australian Business Economists Speech, Sydney, 22 May 2012, p. 7.

255 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

256 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 3.

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.[257]

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:

> 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.[258]

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 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

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[257] 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.

[258] Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 1.

> movement in yields over this period is therefore hardly anomalous, given market conditions.[259]

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.[260][261]

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.[262]

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, [263] 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.

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 Multinet 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,[264] 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).[265]

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

260 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 11–12..

261 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.

262 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 12.

263 The AER used an indicative 20 business day averaging period ending on 10 August 2012. The AER will update this in the final decision with Multinet's proposed averaging period.

264 Discussed further in section 4.2.1.

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

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.[266]

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.[267]

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.[268]

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.[269] The present value principle in a regulatory context requires:

> 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).[270]

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.[271] 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.[272]

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

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

267 Lally, *Risk free rate and present value*, August 2012, p. 3.

268 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.

269 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>.

270 Lally, *Risk free rate and present value*, August 2012, pp. 5-6

271 Lally, *Risk free rate and present value*, August 2012, p. 3

272 Lally, *Risk free rate and present value*, August 2012, p. 3

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 period[273]—literally, the first market price on the first day of the regulatory period.[274] 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.[275]

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.[276]

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.[277]

The AER does not consider a long term averaging period is an appropriate and reasonable departure from the present value principle.

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 bias[278] 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

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273 Lally, *Risk free rate and present value*, August 2012, p. 3

274 Lally, *Risk free rate and present value*, August 2012, p. 7

275 Lally, *Risk free rate and present value*, August 2012, p. 7

276 AER, *Final decision—WACC Review*, May 2009, pp. 173-174

277 Lally, *Risk free rate and present value*, August 2012, p. 7.

278 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.

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 Multinet's proposal for an MRP of 6 per cent. The AER notes the 6 per cent MRP was proposed in line with the long term average risk free rate of 5.99 per cent (nominal). Multinet also used DGM estimates and NERA's regime switching model estimate to provide a cross check.[279] In this section, by applying the approach set out in section 4.2.4, the AER 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.
- 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

[279] Multinet, *Multinet's gas arrangement review 2013-2017*, March 2012, pp. 154-155.

- 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.[280] 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.
- Historical estimates are widely used and have support as the benchmark method for estimating the MRP in Australia.[281]

A few studies indicated there is no better forecast of excess returns than the historical average.[282] 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.[283]

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280 Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14,* 26 July 2012, paragraph 153.

281 McKenzie, M. and Partington, G., *Equity market risk premium*, 21 December 2011, pp. 5–6.

282 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.

283 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.

The long term averages of historical excess returns, adjusted to incorporate an imputation credit utilisation rate (theta) of 0.35[284], 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 4.3). 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).[285]

Table 4.3 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.[286]

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).
- Shorter time series are more vulnerable to influence by the current stage of the business cycle or other (one-off) events. [287]

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284 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.

285 Brailsford, Handley and Maheswaran, *Re-examination of the historical equity risk premium in Australia,* Accounting and Finance, vol. 48, 2008, pp. 85-86.

286 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 1958–2011 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.

287 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.

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.[288]

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.[289] 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.

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.[290] According to Damodoran (2011), survivorship bias is created by estimating historical returns on only stocks that have survived.[291] Historical data excludes negative return stocks that no longer exist, which naturally results in higher return estimates. McKenzie and Partington[292] and Joye[293] supported this view. The AER notes this upward bias is a relevant consideration because the various Australian stock indexes exclude the failed stocks.[294] 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.[295] 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.[296]

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

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288 Appendix B discusses the details.

289 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT4*, 11 January 2012, paragraph 157.

290 McKenzie, M. and G. Partington, *Equity market risk premium*, 21 December 2011, pp. 6–7.

291 Damodoran, A. *Equity risk premiums: determinants, estimation and implications—the 2012 edition,* Mach 2012, p. 24.

292 McKenzie, M. and Partington, G., *Review of regime switching framework and critique of survey evidence,* August 2012, p. 19.

293 Joye, C., *Super funds miss mark in bias to equities,* Australian Financial Review, 14 August 2012.

294 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.

295 Lally, *Cost of equity and the market risk premium*, 25 July 2011, p. 8

296 McKenzie, M. and Partington, G., *Equity market risk premium*, 21 December 2011, p. 7

recently entered a major recession and, even if it had, the downward bias is unlikely to be very large.[297] 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.[298]

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.

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

Table 4.4 Recent regulatory decisions

Regulator	Decision date	Sector	MRP (%)
ACCC	May 2010	Postal services	6.0
QCA	June 2010	Water	6.0
QCA	September 2010	Rail	6.0
ACCC	December 2010	Rail	6.0
ERA	February 2011	Gas	6.0
ACCC	July 2011	Telecommunications	6.0
ACCC	July 2011	Water	6.0
ESCV	August 2011	Rail	6.0

297 Lally, *Cost of equity and the market risk premium*, 25 July 2011, p. 24.
298 Lally, *Cost of equity and the market risk premium*, 25 July 2011, p. 27.

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
IPART	June 2012	Water	5.5–6.5
IPART	June 2012	Water	5.5–6.5
IPART	July 2012	Electricity	5.5–6.5
ERA	September 2012	Electricity	6.0

Source: ACCC,[299] ERA,[300] ESC,[301] QCA.[302] IPART[303], ESCOSA[304].

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,

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299 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.

300 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, *Final decision,* Final decision on Proposed Revisions to the Access Arrangement for the Western Power Network, 5 September 2012, p. 381.

301 ESCV, *Metro proposed access arrangement, Final decision, August 2011*, p. 85.

302 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.

303 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.

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

> 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%.[305]

The Tribunal handed down a similar decision in its review of ATCO's (formerly WA Gas Network's) and DBNGP's access arrangements.[306] In both decisions, the ERA considered the 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,[307] 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.[308]

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.[309]

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

306 Australian Competition Tribunal, *Application by WA Gas Networks Pty Ltd (No 3) ACompT 12,* 8 June 2012, paragraphs 105–8.
Australian Competition Tribunal, *Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14,* 26 July 2012, paragraphs 161–3.

307 Appendix B discusses this application in detail.

308 Australian Competition Tribunal, Application by Envestra Limited (No 2) [2012] ACompT 3, 11 January 2012, paragraphs 159–63.

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

- Capital Research (2006) found the average MRP adopted across a number of brokers was 5.09 per cent.[310]

- 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.[311]

Survey evidence after the WACC decision includes the following:

- 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.[312]

- 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.[313]

- 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.[314]

- 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.[315]

- 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.[316]

Table 4.5 summarises the key findings of the surveys.

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

311 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.

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

313 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.

314 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.

315 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.

316 Asher, *Equity Risk Premium Survey—results and comments*, Actuary Australia, July 2011, no. 161, pp. 13–14.

Table 4.5 Key findings of MRP surveys

	Numbers of responses	Mean	Median	Mode
KPMG (2005)	33	7.5%	6.0%	6.0%
CaptialCapital 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)).

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.[317] 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 Multinet in the context of CGS yields being at an historical low. The AER and Multinet both adopted the Sharpe-Lintner CAPM as the accepted model for determining the cost of equity[318]. 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, Multinet proposed a long term historical average risk free rate.

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317 McKenzie, M. and Partington, G., *Supplementary report on equity market risk premium*, 22 February 2012, p. 19
McKenzie, M. and Partington, G. *Review of regime switching framework and critique of survey evidence,* August 2012, p. 28.

318 Multinet, *Multinet's gas arrangement review 2013-2017*, March 2012, p. 157.

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:

- 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.[319]

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 risk[320]. 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.

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[319] 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.

[320] S. 24 (5) of the NGL

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).[321]

Multinet 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.

Consistency of the MRP and risk free rate estimates

Multinet suggested the WACC determined by the AER does not meet the requirements of rule 87(1) because the AER adopts an MRP that reflects the long term average and uses a risk free rate that reflects current market conditions.[322] 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.[323] 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.[324] 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).[325] On the other hand, the MRP is unobservable and there are no reliable proxies for it that can be directly observed.

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

322 Multinet, *Multinet's gas arrangement review 2013-2017*, March 2012, p. 159.

323 See section 1.3.1 for further discussion.

324 AER, Final decision: WACC review, May 2009, pp. 72–7.

325 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.

Prevailing MRP estimates using current market data will not necessarily reflect forward looking expectations and are influenced by the assumptions used.[326] 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.

Economic interdependencies

Multinet proposed a long term historical average risk free rate. Its contention was based on the CEG report that the MRP and the risk free rate have a negative relationship. 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.[327]

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

[326] 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.

[327] Lally, *Cost of equity and the MRP,* July 2012, p. 7.

> 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.[328]

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.

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.[329]

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.[330]

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

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

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

330 Lally, *Cost of equity and the MRP,* July 2012, pp. 8-9.

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.[331]

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 any point in time (the blue line).[332] 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 assumption[333] and thus generates results showing a stable cost of equity over time.[334] Lally described CEG's chart as being 'predisposed' to the result that it displays.[335] 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.[336]

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331 See Damodaran, *Equity risk premiums: determinants, estimation and implications—the 2012 edition*, March 2012, pp. 77–9.

332 CEG, *Internal consistency of risk free rate and MRP in the CAPM*, March 2012, p. 17.

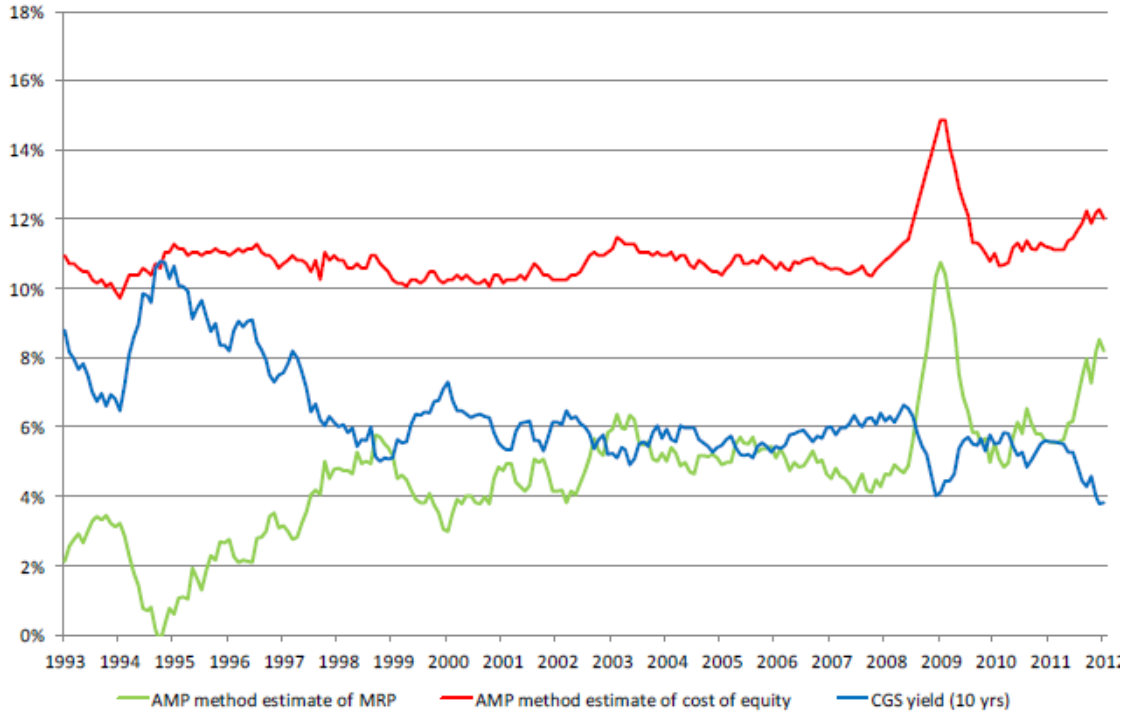
333 By applying the AMP method, CEG assumed the market cost of equity at any point in time is the same for all future years. If, for example, the current risk free rate were unusually low, then the MRP would assume to be unusually high by an exactly offsetting amount.

334 Lally, *Cost of equity and the MRP,* July 2012, pp. 9–12, 15.

335 Lally, *Cost of equity and the MRP,* July 2012, p. 11.

336 Lally, *Cost of equity and the MRP,* July 2012, p. 15.

Figure 4.1 CEG AMP method estimate of Return on Equity and MRP relative to 10 year CGS yields



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

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.[337]

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.[338]

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:

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337 CEG, *Internal consistency of risk free rate and MRP in the CAPM,* March 2012, pp. 33–40.

338 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.

- 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.[339]

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.

MultiNet 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.[340] The AER accepts MultiNet's proposal for an equity beta of 0.8.

Notwithstanding MultiNet's proposal for an equity beta of 0.8, it cited CEG in claiming that the approach to implementing the CAPM used by the AER under-estimates the cost of equity for firms with an estimated beta of less than one. According to MultiNet, CEG advised that the AER should tend to favour a cost of equity estimate that is closer to the normal or average market return, associated with a beta of one. Such an approach would be preferable to one that follows on from a mechanical plugging in of the estimated beta into the CAPM formula.[341] Further, according to MultiNet, in a report for the New Zealand Commerce Commission, Professors Franks and Myers recommended the use of the 'Blume' adjustment for equity betas, which would tend to drive values towards one. The report stated 'Empirical evidence shows that average returns for low-beta firms are higher than predicted by the classical CAPM'.[342]

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.[343] 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

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339 Lally, Cost of equity and the MRP, July 2012, p. 14.

340 MultiNet, Gas access arrangement review 2013-2017 access arrangement information, 30 March 2012, p. 154, 171.

341 MultiNet, Gas access arrangement review 2013-2017 access arrangement information, 30 March 2012, p. 171, 172.

342 MultiNet, Gas access arrangement review 2013-2017 access arrangement information, 30 March 2012, p. 171, 172.

343 AER, Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters, 1 May 2009, pp. 239–344

decision making over time.[344] 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 evidence referred to by MultiNet that beta should be at least 1.0, was put forth by Envestra SA in its revised application for the 2011–16 regulatory control period. The AER's full consideration of this evidence is provided in AER's June 2011 Envestra SA final decision. In summary, but drawing directly on the analysis and conclusions in that decision, the AER considers:[345]

- The use of a foreign data to estimate CAPM inputs is a suboptimal outcome that can only be justified where there is evidence that this will produce more reliable estimates of the domestic equity beta than Australian estimates.
- The CEG report does not comprehensively evaluate the differences between Australia and the US. CEG did not consider the numerous aspects of the regulatory framework that affect the exposure of the firm to systematic risk, and which differ substantially on an international basis.
- The Australian equity beta estimates (drawn from the WACC review) are sufficiently robust, and the claims by CEG are unfounded.
- An equity beta of 0.8 would not under compensate the benchmark service provider for the risks of providing reference services. The AER has cross-checked this by obtaining a recent Grant Samuel independent report which used an equity beta estimate of 0.8 to 0.9, suggesting that the equity beta estimates for energy distribution businesses remain unchanged as a consequence of the GFC.
- CEG appeared to misinterpret the position of the New Zealand Commerce Commission's (NZCC) expert advisors.

The AER's past considerations of this matter are still relevant.

The AER has not 'mechanistically plugged' the equity beta into the CAPM as suggested by MultiNet. Rather, as discussed in the AER's WACC review, the AER's estimate of 0.8 is above the range suggested by market evidence—as a consequence of factors such as the NGO/NEO and regulatory stability.[346]

MultiNet also noted a report in which Professors Frank and Myers recommended the Blume adjustment. The AER notes that in the same report, Dr Lally recommends not to make a Blume adjustment.[347] Two rationales for the need for the Blume adjustment were raised in the WACC review. However, the AER found that the Blume (and Vasicek) adjustment (assuming a 'prior belief' of an equity beta of one) should not be applied to energy stocks in a regulatory

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344 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.

345 AER, Final decision for Envestra Access arrangement proposal for the SA gas network, June 2011, 176-184

346 AER, Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters, 1 May 2009, p.iv, xv-xvii, 239-341

347 Franks, J., Lally, M. and Myers, S., Recommendations to the New Zealand Commerce Commission on an Appropriate Cost of Capital Methodology, December 2008, p. 26.

context.[348] The discussion in the WACC review discussion is still relevant and the AER does not consider this adjustment to be appropriate.

Further, the AER also notes that there is a substantial body of evidence that beta is less than 1 (and even less than 0.8), as outlined by the Energy Users Coalition of Victoria (EUCV). EUCV submitted the equity beta for MultiNet should be 0.65. The EUCV noted that:

- The empirical evidence undertaken during the WACC review implies a beta of 0.55.[349]
- 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.[350]
- 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.[351]

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 equity beta of 0.8 provides MultiNet with an opportunity to recover at least its efficient costs incurred in providing reference services and meeting regulatory requirements.[352]

4.3.6 Debt risk premium

The AER accepts, in principle, Multinet's proposed benchmark and method for determining the DRP. The AER, however, has updated Multinet's proposed DRP to reflect the indicative averaging period used throughout this draft decision. This results in a DRP of 3.76 per cent.[353]

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348 AER, WACC review final decision, May 2009, 293-307.

349 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-.07.

350 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.

351 EUCV, Applications from Envestra, MultiNet and SP Ausnet, A response by EUCV, June 2012, p. 57, 58.

352 NGL, s. 24(2)

353 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.

The AER will again update this value for its final decisions based on Multinet's final averaging period.

Specifically, the AER accepts Multinet'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.[354] This benchmark assumption has been adopted by the AER in previous gas decisions.[355] 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.[356] 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 Multinet's proposed approach to establishing the DRP. In particular, the AER accepts Multinet's proposal to estimate the benchmark DRP solely on the Bloomberg BBB fair value curve. Notwithstanding that the AER has previously expressed concerned 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.[357]

The AER also accepts Multinet'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.[358] 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
- the shorter dated bond (of the pair) has a remaining term to maturity closest to seven years.[359]

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

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354 Multinet, *Access arrangement information*, 30 March 2012, pp. 172–173.

355 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.

356 Other factors—for example, industry type—may also be relevant in determining the level of risk involved in providing reference services.

357 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.

358 This is because seven years is the maximum term currently published for the Bloomberg BBB fair value curve.

359 PwC, *SP AusNet, MultiNet Gas, Envestra, and APA Group: Estimating the benchmark debt risk premium*, March 2012, p. 22.

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.[360]

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 Multinet 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 Multinet's proposal, the AER has also taken into account the EUCV's submission.[361] 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.[362] 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.[363] 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.

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360 PwC, *SP AusNet, MultiNet Gas, Envestra, and APA Group: Estimating the benchmark debt risk premium*, March 2012, p. 13.

361 EUCV, *Victorian gas distribution revenue reset, Application from Envestra, Multinet and SP AusNet, A response by EUCV*, June 2012.

362 For example, the DRP for seven year debt should be determined with reference to the seven year risk free rate.

363 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.

4.3.7 Forecast inflation

The AER approves Multinet's proposed methodology[364] for estimating forecast inflation. The proposed methodology is consistent with that adopted by the AER in previous regulatory decisions.

Multinet used this methodology and derived an inflation forecast of 2.51 per cent using the February 2012 RBA forecasts. 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 **Error! Reference source not found.**

Table 4.6 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.

MultiNet proposed a gearing ratio of 60:40 (that is, 60 per cent debt).[365] The AER accepts this gearing ratio because it is supported by relevant available empirical evidence.[366] 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.[367] 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.[368]

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364 Multinet, *Multinet's gas arrangement review 2013-2017*, March 2012. pp. 173-174.

365 MultiNet, Gas access arrangement review 2013-2017 access arrangement information, 30 March 2012, p. 172.

366 AER, Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters, 1 May 2009, p. 126.

367 AER, draft decision, Envestra Ltd Access arrangement proposal for the SA gas network 1 July 2011 – 30 June 2016, February 2011, p. 93.

368 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 multiplies 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 (6.45-9.08 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 Multinet's access arrangement proposal acceptable:

Revision 4.1: Make all necessary amendments to reflect the AER's draft decision on the rate of return, as reflected in Table 4.1

5 Depreciation

When determining the total revenue for Multinet, the AER must decide on the depreciation for the projected capital base (or return of capital).[369] 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 Multinet's annual regulatory depreciation allowances is outlined in this attachment.[370] 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 Multinet'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 Multinet's proposed regulatory depreciation allowance of $181.0 million ($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 allowance for forecast redundant assets
- the proposed standard economic lives and remaining economic lives as at 1 January 2013.

The AER approves Multinet's proposed depreciation allowance for redundant assets up to 2012 as a result of the Pipeworks program. However, the AER does not approve the proposed depreciation allowance for forecast redundant assets for the 2013–17 access arrangement period because it does not reflect the economic life (or changes in the economic life) of the assets as required by the NGR.[371] This aspect of the AER's draft decision is impacted by the AER's adjustment on forecast replacement capex (discussed in attachment 3).

With the exception of the 'Land & buildings' and 'SCADA' asset classes, the AER approves Multinet'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. Further, the AER does not approve the proposed standard

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369 NGR, r. 76(b).

370 Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

371 NGR, rr. 89(1)(b), 89(1)(c).

economic life for the 'SCADA' asset class because it does not reflect the economic life of the assets as required by the NGR.[372]

The AER does not approve Multinet's proposed remaining economic lives because they are not consistent with the NGR, which requires that a forecast or estimate must be arrived at on a reasonable basis, and must represent the best forecast or estimate possible in the circumstances.[373] To satisfy the NGR, the AER requires that Multinet adopt the AER's calculation of remaining economic lives in the capital base roll forward model (RFM). The AER's adjustments correct the errors in Multinet's calculations, and update the remaining economic lives to reflect the amended opening capital base as at 1 January 2013 (discussed in attachment 2). The AER also made adjustments to the remaining economic lives for the asset classes of 'SCADA' and 'IT'.

The AER's draft decision regarding other components of Multinet'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 Multinet's total regulatory depreciation allowance over the 2013–17 access arrangement period is $114.3 million ($nominal) as shown in Table 5.1. This represents a reduction of $66.7 million ($nominal) or 36.9 per cent of Multinet's proposed total regulatory depreciation allowance.

Table 5.1 AER's draft decision on Multinet's depreciation allowance ($million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	40.3	47.0	50.2	53.1	56.5	247.0
Less: indexation on opening capital base	25.4	26.3	26.6	27.0	27.4	132.7
Regulatory depreciation	14.9	20.7	23.5	26.2	29.1	114.3

Source: AER analysis.

5.2 Multinet's proposal

Multinet proposed a total forecast regulatory depreciation allowance of $181.0 million ($nominal) over the 2013–17 access arrangement period, as set out in Table 5.2. To calculate the depreciation allowance, Multinet proposed:[374]

372 NGR, r. 89(1)(b).
373 NGR, rr. 74(2)(a), 74(2)b)
374 Multinet, *Access Arrangement Information*, March 2012, pp. 139–142.

- a depreciation allowance for redundant assets as a result of its Pipeworks program (discussed in section 5.4.1 of this attachment)
- standard economic lives for depreciating new assets associated with forecast capex
- remaining economic lives as at 1 January 2013 for depreciating existing assets in the opening capital base.

Table 5.2 Multinet's proposed depreciation allowance ($million, nominal)

	2013	2014	2015	2016	2017	Total
Straight-line depreciation	53.8	61.1	66.1	70.7	76.7	328.3
Less: indexation on opening capital base	26.9	28.4	29.6	30.6	31.8	147.3
Regulatory depreciation	26.9	32.6	36.4	40.1	44.9	181.0

Source: Multinet, *PTRM*, March 2012.

5.3 Assessment approach

In its access arrangement proposal, Multinet 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.[375] 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.[376] 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 NGR.[377] The AER must also take into account the depreciation schedule approved in the 2008–12 access arrangement period,[378] the NGO and the revenue and pricing principles.[379]

The AER's discretion under the depreciation criteria is limited.[380] 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 services[381]

375 NGR, r. 72(1)(c)(ii).
376 NGR, rr. 88(1) and 88(2).
377 NGR, r. 89.
378 NGR, schedule 1, r. 5(1)(d).
379 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.
380 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 that 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.

- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets[382]

- 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 assets[383]

- so that (subject to the rules about capital redundancy), an asset is depreciated only once[384]

- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.[385]

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.[386]

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.[387] The AER considers that the straight-line method satisfies the depreciation criteria.[388] This is because the straight-line method smoothes 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 the service provider's reasonable needs for cash flow. Multinet has adopted the straight-line method set out in the AER's PTRM for calculating its forecast depreciation. The AER therefore has assessed Multinet's regulatory depreciation allowance by analysing Multinet'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 class—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

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381 NGR, r. 89(1)(a).
382 NGR, r. 89(1)(b).
383 NGR, r. 89(1)(c).
384 NGR, r. 89(1)(d).
385 NGR, r. 89(1)(e).
386 NGR, r. 89(2).
387 The AER's PTRM was developed based on the post-tax building block approach set out in the National Electricity Rules. Given that Multinet has proposed the post-tax building block approach for its access arrangement, the PTRM can be used to calculate the revenue requirement.
388 NGR, r. 89.

forecast inflation (attachment 4). The AER's decision on the required amendments to Multinet'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.[389] The AER's standard method for determining the remaining economic lives is the weighted average method.[390] 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 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 Multinet's regulatory depreciation allowance is $114.3 million ($nominal) over the 2013–17 access arrangement period.

The AER approves Multinet's proposed depreciation allowance for redundant assets up to 2012. However, the AER does not approve the proposed depreciation allowance for redundant assets for the 2013–17 access arrangement period because it does not reflect the economic life (or changes in the economic life) of the assets as required by the NGR.[391]

With the exception of the 'Land & buildings' and 'SCADA' asset classes, the AER approves Multinet's proposed standard economic lives for the 2013–17 access arrangement period. The AER does not approve Multinet's proposed remaining economic lives because they are not consistent with the NGR.[392] The AER requires that Multinet adopt the AER's calculation of remaining economic lives in the AER's RFM.

In addition, the AER has made changes to other components of Multinet's proposal that impact on the proposed regulatory depreciation allowance.

5.4.1 Redundant assets

The AER is required to take into account the depreciation schedule approved in the 2008–12 access arrangement period.[393] For this reason, the AER approves Multinet's proposed (accelerated) depreciation allowance for redundant assets up to 2012 as a result of the Pipeworks program. This allowance is consistent with the ESC's decision for the 2008–12

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389 NGR, r. 89(1)(a).

390 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.

391 NGR, rr. 89(1)(b) and 89(1)(c).

392 NGR, rr. 74(2)(a) and 74(2)(b).

393 NGR, schedule 1, r. 5(1)(d).

access arrangement period, where it was approved as part of Multinet's Pipeworks program. Specifically, these redundant assets were low pressure distribution mains and associated services (part of the 'Transmission and distribution' and 'Services' asset classes).

However, the AER does not approve Multinet's proposed (accelerated) depreciation allowance for forecast redundant assets for the 2013–17 access arrangement period. Multinet has already received excess depreciation allowance for redundant assets in the 2008–12 access arrangement period. Due to AER's adjustment on proposed forecast replacement capex for the Pipeworks program, the AER considers that the proposed depreciation allowance for forecast redundant assets is not appropriate because it is not consistent with the requirements of the NGR.[394] That is, the proposed depreciation allowance for forecast redundant assets does not reflect the economic life (or changes in the economic life) of those assets.[395]

In the 2008–12 access arrangement, the ESC allowed Multinet to include in its depreciation allowance amounts for redundant assets as a result of Multinet's Pipeworks program.[396] Multinet therefore received accelerated depreciation over the five years of the 2008–12 access arrangement period for assets that were forecast to be replaced during that period, but which had not yet reached the end of their economic lives. Multinet's actual replacement of low pressure distribution mains during 2008–12 was 240 km, less than half of the ESC's approved replacement of 557 km for that period.[397] This meant that Multinet has effectively received accelerated depreciation for 317 km of low pressure distribution mains in the 2008–12 access arrangement period even though these assets have not been made redundant and are still in service.

For the 2013–17 access arrangement period, Multinet again proposed replacement capex for the Pipeworks program (discussed in attachment 3). Multinet's proposal sought to account for the lower rate of replacement assets it undertook during 2008–12 and the excess depreciation allowance that it recovered for those assets. To this end, Multinet proposed to apply a reduced rate of accelerated forecast depreciation for expected redundant assets during the 2013–17 access arrangement period.[398] Multinet's proposed depreciation allowance for forecast redundant assets for the 2013–17 access arrangement period is:

- $9.2 million ($nominal) for low pressure distribution mains
- $8.8 million ($nominal) for the associated services.[399]

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394 NGR, rr. 89(1)(b), 89(1)(c).

395 NGR, rr. 89(1)(b), 89(1)(c).

396 ESC, *Gas access arrangement review draft decision, p.267.*

397 Multinet, *Access arrangement information*, March 2012, p. 111.

398 Specifically, Multinet proposed to replace approximately 442 km of low pressure distribution mains during the 2013–17 access arrangement period. In order to 'catch up' with those assets that were already written off, Multinet proposed to reduce the rate of its accelerated forecast depreciation allowance for redundant assets for the 2013–17 access arrangement period. Therefore, Multinet proposed an accelerated depreciation profile to reflect 302 km of low pressure distribution mains (less than the proposed replacement profile of 442 km) during the 2013–17 access arrangement period. Multinet also proposed to lower the unit rate used to calculate the amount of depreciation allowance. See Multinet, *Access arrangement information*, March 2012, p. 110; and Multinet, *Response to AER Information Request 14*, 22 June 2012.

399 Multinet, *AER Information Request 14*, 22 June 2012. Multinet advised that the rate of replacement of distribution services is 85 services for every 1 km of distribution mains replaced.

For the 2013–17 access arrangement period, the AER requires that Multinet's proposed forecast replacement capex for distribution mains be reduced (see attachment 3). The AER considers that the proposed forecast replacement capex should be revised down to 240 km of low pressure distribution mains over the 2013–17 access arrangement period. Due to the AER's adjustment on Multinet's forecast replacement capex, Multinet will replace fewer assets in the next period than is required to 'catch up' with the assets that are still in service but for which it has already received accelerated depreciation in the 2008–12 access arrangement period.[400]

Accordingly, the AER considers that the proposed depreciation allowance for forecast redundant assets does not satisfy the requirement of the NGR.[401] Specifically, the AER considers that this proposed forecast allowance does not reflect the economic life (or any changes in the economic life) of the assets expected to be made redundant in the 2013–17 access arrangement period. This is because Multinet's proposed forecast replacement for low pressure distribution mains, upon which the proposed depreciation allowance was calculated, is more than the AER's adjusted forecast replacement. As a result, the proposed depreciation allowance is not reflective of the economic life of the expected redundant assets (as approved by the AER). The AER therefore does not consider that any further accelerated depreciation allowance for forecast redundant assets in the 2013–17 access arrangement period is appropriate.

5.4.2 Standard economic lives

With the exception of the 'Land & buildings' and 'SCADA' asset classes, the AER approves Multinet's proposed standard economic lives assigned to its asset classes for the 2013–17 access arrangement period. The AER considers that these proposed standard economic lives are consistent with the ESC's approved standard economic lives for the 2008–12 access arrangement period.[402] Multinet did not propose any new asset classes for the 2013–17 access arrangement period.[403]

'Land & buildings' asset class

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 in the 2013–17 access arrangement period. The AER notes that the ESC treated 'Land & buildings' as one single asset class in its review of the 2008–12 access arrangement, although there was zero value in the capital base for this asset class (and zero capex) during that period. For the 2013–17 access arrangement period, due to land being a non-depreciable asset, the AER considers that the 'Land & buildings' asset class should be split into two separate asset classes.

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400 The AER's adjustment on forecast capex means that by the end of 2017, Multinet will still have received accelerated depreciation for 77 km of low pressure distribution mains, which are still in service.

401 NGR, rr. 89(1)(b), 89(1)(c).

402 ESC, *Multinet 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.

403 However, the 'Mains & services' asset class has been disaggregated into four asset classes with the same standard economic lives.

Multinet initially proposed a standard economic life of 40 years for the 'Land & buildings' asset class.[404] Following an AER information request, Multinet confirmed that its proposed standard economic life for this asset class should be 50 years.[405] The AER accepts that a standard economic life of 50 years for the 'Land & buildings' asset class is appropriate. This is because the value of 50 years is consistent with the ESC's approved standard economic life. However, for the reasons discussed below, the AER considers that this asset class should be split into two separate asset classes of 'Land' and 'Buildings' in the opening capital base as at 1 January 2013.

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 RFM and the PTRM.[406] This is because land is a non-depreciable asset under the Australian taxation law, and does not diminish in its useful life.[407] The *Income Tax Assessment Act* (ITAA) 1997 excludes land from the definition of a 'depreciating asset'.[408]

There is no proposed opening asset value for the 'Land & buildings' asset class in the opening capital base as at 1 January 2013 because the value has been fully depreciated. For the 2013–17 access arrangement period, Multinet proposed forecast capex of $4.1 million ($nominal) for the 'Land & buildings' asset class. In response to the AER's information request, Multinet submitted that this proposed forecast capex is related to buildings.[409] On this basis, the AER has split the 'Land & buildings' asset class into two separate asset classes. The AER considers that:

- the 'Buildings' asset class should be assigned a standard economic life of 50 years. This is consistent with the standard economic life approved by the ESC for the 2008–12 access arrangement period[410]
- 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 Multinet's PTRM).

'SCADA' asset class

The AER does not approve Multinet's proposed standard economic life of 7 years for the 'SCADA' asset class because it does not comply with the NGR, which requires that assets be depreciated over their economic lives.[411] To satisfy the requirement of the NGR, the AER considers that a standard economic life of 15 years is more appropriate.

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404 Multinet, *PTRM*, March 2012.

405 Multinet, *AER Information Request 14*, 22 June 2012.

406 AER, *Roma to Brisbane Pipeline draft decision*, April 2012, p. 19; AER, *Aurora Energy draft distribution determination*, November 2011, p. 205.

407 Australian Accounting Standard Board, *Accounting standard AASB1021: Depreciation,* August 1997, pp. 10– 11.

408 ITAA 1997, s. 40-30.

409 Multinet, *Response to AER Information Request 14*, 22 June 2012.

410 ESC, *Multinet GAAR 2008 Revenue Model Further Final Decision*, 2008. This standard economic life is also consistent with the range of standard economic lives for the 'Buildings' asset class approved by the AER in its previous decisions. See AER, *N.T Gas Draft Decision*, April 2011, p. 56.

411 NGR, r. 89(1)(b).

The AER considers that the proposed standard economic life is too short, when compared to the standard economic lives for the 'SCADA' asset class approved in previous AER decisions.[412] In those decisions, the AER considered that a standard economic life of 15 years to 20 years for 'SCADA' to be consistent with the NGR.[413]

The AER sent a request to Multinet seeking further information on its proposed standard economic life for the 'SCADA' asset class.[414] At the time of publishing this draft decision, Multinet has not responded to the information request. For the purpose of this draft decision, the AER considers that Multinet's proposed standard economic life of 7 years should be increased to 15 years consistent with the requirement of the NGR.[415]

The AER's draft decision on Multinet's standard economic lives for each of its asset classes for the 2013–17 access arrangement period is set out in Table 5.3.

5.4.3 Remaining economic lives

The AER does not approve Multinet's proposed remaining economic lives as at 1 January 2013 because they are not consistent with the NGR.[416] The AER requires that Multinet adopt the AER's calculation of remaining economic lives. This corrects for a modelling error in Mulinet's calculation, and updates the remaining economic lives to reflect the AER's adjustments to the opening capital base as at 1 January 2013.

Except for the 'SCADA' and 'IT' asset classes, the AER's calculation uses Multinet's proposed method for calculating the remaining economic lives as at 1 January 2013.

Modelling of remaining economic lives

The AER does not approve Multinet's proposed remaining economic lives as at 1 January 2013 because they are not consistent with the NGR.[417] To satisfy the NGR, the AER requires that Multinet adopt the AER's calculation of remaining economic lives in the AER's RFM. The AER's calculation uses Multinet's proposed approach but makes the following adjustments:

- corrects for an error in Multinet's modelling by adjusting the formula used to calculate the total amount of depreciation in 2013 associated with each asset class. These 2013 depreciation amounts are used as inputs to calculate the remaining economic lives as at 1 January 2013. The AER's RFM corrects the error and recalculates the remaining economic lives as at 1 January 2013 using Multinet's proposed approach

- updates the remaining economic lives as at 1 January 2013 to reflect the AER's adjustments to the opening capital base as at 1 January 2013 (discussed in attachment 2).

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412 AER, *APT Allgas Draft decision*, February 2011, p. 37. AER, *Envestra Draft decision*, February 2011, p. 46. AER, *Envestra, Draft decision*, February 2011, p. 52. AER, *NT Gas Draft decision*, April 2011, p. 56. AER, *Country Energy (Envestra) Draft decision*, November 2009, p. 37.

413 NGR, r. 89(1)(b).

414 AER, *Information request 43*, 3 August 2011.

415 NGR, r. 89(1)(b).

416 NGR, rr. 72(2)(a) and 72(2)(b).

417 NGR, rr. 72(2)(a) and 72(2)(b).

Multinet calculated the remaining economic life for each asset class (except the 'SCADA' asset class) by dividing the closing asset value in the capital base as at 31 December 2012 by the total amount of depreciation in 2013 associated with the asset class.[418] This is a different approach to the AER's standard approach of using a weighted average method. The AER has reviewed Multinet's calculations of the remaining economic lives. The AER identified an error in the formula used by Multinet to calculate the total amount of depreciation in 2013 for its asset classes. To correctly calculate the amount of depreciation in 2013, the written down asset values as at 1 January 2013 associated with individual capex within the asset classes should be divided by the remaining economic life as at 1 January 2013 for individual capex within the asset classes. However, Multinet's formula did not correctly calculate these written down assets values, and used the standard economic life of the asset class as denominators instead of the relevant remaining economic life. As a result, the AER considers that Multinet's proposed calculation of remaining economic lives as at 1 January 2013 is not arrived at on a reasonable basis, and does not produce the best forecast or estimate possible in the circumstances as required by the NGR.[419]

As discussed in attachment 2, the AER has used its RFM instead of Multinet's RFM to roll forward the opening capital base as at 1 January 2013. Using this RFM, the AER has corrected the modelling error identified above, and also recalculated Multinet's remaining economic lives as at 1 January 2013 using Multinet's proposed approach. These corrected remaining economic lives also reflect the AER's adjustments to the opening capital base. Compared to Multinet's proposed remaining economic lives, the AER's corrected remaining economic lives as at 1 January 2013 are slightly shorter for some asset classes (except for the 'Transmission and distribution' asset class).

Multinet's proposed approach to calculating the remaining economic lives is different to the AER's standard approach being the weighted average method. The AER has compared the corrected remaining economics lives (calculated using Multinet's proposed approach)[420] against the remaining economic lives derived using the weighted average method. The AER considers that both Multinet's proposed approach and the weighted average method are generally considered to meet the depreciation criteria under the NGR.[421] Multinet's proposed approach is also consistent with the depreciation approach which was accepted by the AER in a previous decision.[422] Further, the AER considers that the price impact associated with using the corrected remaining economic lives is not significant relative to using the remaining economic lives calculated using the weighted average method.[423] Therefore, the AER's corrected remaining economic lives (calculated using Multinet's proposed approach) are appropriate (except for the 'SCADA' and 'IT' asset classes as discussed below).

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418 Multinet, *Response to AER information request 14*, 22 June 2012.

419 NGR, rr. 72(2)(a) and 72(2)(b).

420 As discussed above, the AER's remaining economic lives are calculated based on Multinet's proposed approach. However, these remaining economic lives have been corrected for errors identified in Multinet's models, and are updated to reflect the AER's adjustments to the opening capital base as at 1 January 2013.

421 NGR, r. 89.

422 AER, *Aurora Final decision*, 2012, p. 206.

423 Compared to the weighted average remaining economic lives, the AER's corrected remaining economic lives would lead to about 0.6 per cent of price increase per annum over the 2013–17 access arrangement period.

'SCADA' asset class

The AER does not approve Multinet's proposed remaining economic life of 5 years for the 'SCADA' asset class. The AER considers the remaining economic life as at 1 January 2013 associated with this asset class should be zero. This is because the 'SCADA' asset class has been fully depreciated in the opening capital base as at 1 January 2013.[424]

The 'SCADA' asset class has a negative opening asset value in the opening capital base as at 1 January 2013 (–$0.97 million). This is due to the forecast depreciation associated with the asset class in the 2008–12 access arrangement period being much higher than the opening asset value plus the actual capex spent for that period. For regulatory depreciation purposes, the 'SCADA' asset class has been fully depreciated in the opening capital base as at 1 January 2013 and has no useful economic life. Therefore, the AER has adjusted the remaining economic life as at 1 January 2013 of the 'SCADA' asset class to zero. This allows the negative opening asset value of the asset class to be returned to customers in 2013. The AER considers that this adjustment is consistent with the NGR which requires that assets be depreciated over the economic life of the assets.[425]

'IT' asset class

The AER considers that Multinet's proposed approach to calculate the remaining economic life should not be used in respect of the 'IT' asset class.[426] The AER has determined the remaining economic life as at 1 January 2013 of the 'IT' asset class to be 5 years.

Under a strict application of Multinet's proposed approach, the remaining economic life of the 'IT' asset class (AER corrected) would be a negative value. This negative remaining economic life is calculated by dividing a positive closing asset value in the capital base as at 31 December 2012 by a negative depreciation amount in 2013. The total depreciation amount in 2013 for the 'IT' asset class is negative because the forecast depreciation associated with this asset class in the 2008–12 access arrangement period is much greater than the actual capex spent.[427] The AER does not consider that a negative remaining economic life is meaningful because it does not reflect the useful life of the assets.[428] Therefore, the AER has calculated the remaining economic life based on dividing the closing asset value in the capital base as at 31 December 2012 by the average depreciation of the existing assets over the 2013–17 access arrangement period.[429]

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424 Envestra, *PTRM*, March 2012.

425 NGR, r. 89(1)(b).

426 This approach is described in the above section. The proposed remaining economic life for the 'IT' asset class is calculated by dividing the closing asset value of the 'IT' asset class in the capital base as at 31 December 2012, by the total amount of depreciation in 2013 associated with that asset class.

427 In this case, the opening asset value as at 1 January 2013 has not become negative because there was a large actual capex added into the capital base in 2011. In effect, Multinet delayed the large amount of capex that was proposed to be spent in 2009 to 2011.

428 The default setting in the AER's PTRM also does not allow any negative remaining economic lives.

429 In this calculation, the denominator used by the AER is average depreciation of the existing assets associated with the 'IT' asset class over five years of the 2013–17 access arrangement period, rather than depreciation amount in the first year of the 2013–17 access arrangement period (negative). The AER's approach is broadly similar to Multinet's proposed approach. However, the AER's approach reduces the influence of the negative depreciation in the first year of the 2013–17 access arrangement period. This average depreciation approach is used in the AER's draft decision for SP AusNet. See SP AusNet, *Draft Decision*, September 2011, p. 137.

The AER's draft decision on Multinet's remaining economic lives for each of its asset classes for the 2013–17 access arrangement period is set out in Table 5.3.

Table 5.3 AER's draft decision on Multinet's standard and remaining economic lives as at 1 January 2013 (years)

Asset classes	Multinet's proposed standard economic life	AER's approved standard economic life	Multinet's proposed remaining economic life	AER's weighted average remaining economic lives	AER's approved remaining economic life
Transmission and distribution	50.0	50.0	31.6	35.4	33.5
Services	50.0	50.0	30.1	31.9	30.6
Cathodic Protection	50.0	50.0	51.7	45.7	45.5
Supply Regs/Valve stations	50.0	50.0	21.7	31.9	18.4
Meters	30.0	30.0	9.8	14.1	10.5
Land	40.0	n/a	40	n/a	n/a
Buildings	40.0 [a]	50.0	40	0	n/a
IT	5.0	5.0	5.1	6.9	5.0
SCADA	7.0	15.0	5.0	–0.6	0.0 [b]
Other	10.0	10.0	7.0	7.5	6.0
Pipeworks retirement (mains)	5.0	5.0	5.0	n/a	n/a
Pipeworks retirement (services)	5.0	5.0	5.0	n/a	n/a

Source: AER analysis.
n/a: Not applicable.
(a) Multinet has subsequently confirmed that the standard economic life for the 'Land & buildings' asset class should be 50 years (consistent with the ESC's approved standard economic life). Multinet, *Response to AER Information Request 14*, 22 June 2012.
(b) The AER considers the remaining economic life should be adjusted to zero to reflect that this asset class has been fully depreciated in the opening capital base as at 1 January 2013.

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 2013–17 access arrangement period, as set out in Table 5.1.

Revision 5.2: Make all necessary amendments to reflect the AER's draft decision on the proposed depreciation allowance for redundant assets for the 2013–17 access arrangement period as set out in section 5.4.1.

Revision 5.3: Make all necessary amendments to reflect the AER's draft decision on the standard economic lives and remaining economic lives as at 1 January 2013, as set out in Table 5.3.

6 Operating expenditure

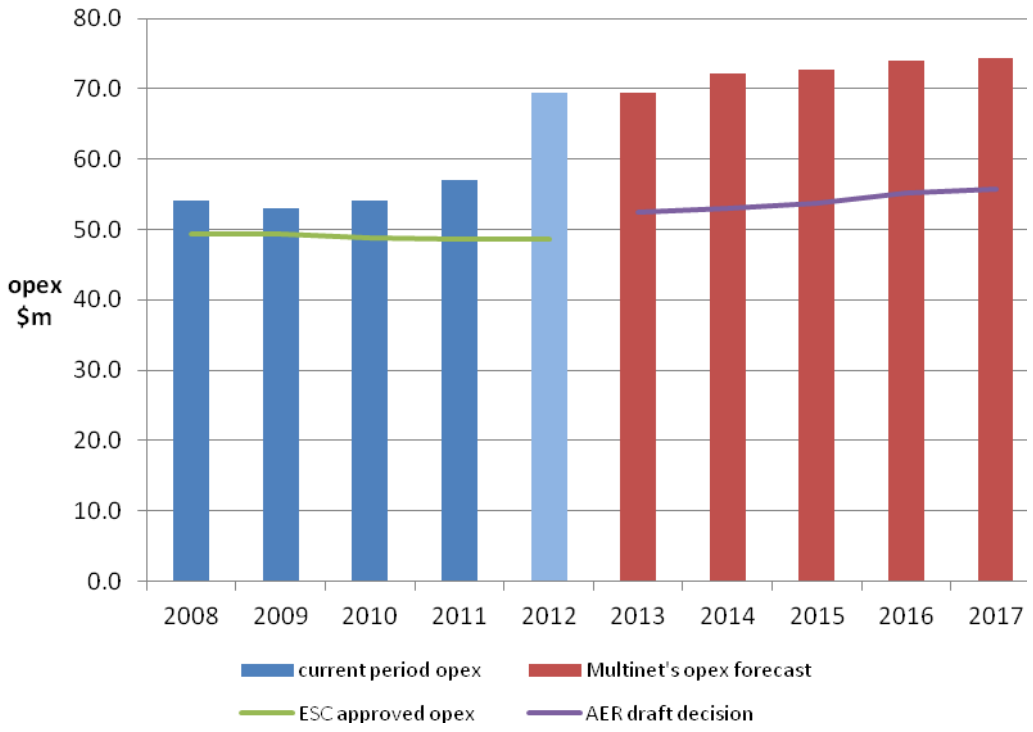
6.1 Draft decision

The AER's draft decision is to not approve a forecast of opex of $362.7 million ($2012) for the 2013–17 access arrangement period for Multinet. The AER is not satisfied that Multinet'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.[430]

The AER instead considers forecast opex of $270.3 million ($2012) reflects a forecast of opex that complies with the criteria governing opex and the criteria for forecasts and estimates.[431]

Figure 6.1 illustrates how the AER's draft decision for opex compares to Multinet's proposal, its opex in the 2008–12 access arrangement period, and the opex approved by the Essential Services Commission (ESC) for this period.

Figure 6.1 Comparison of Multinet's historical and forecast opex, and AER draft decision ($million 2012)[432]



Source: Multinet RIN template, AER analysis

430 NGR, rr. 91(1) and 74(2).

431 NGR, rr. 91(1) and 74(2).

432 Note 2012 is a forecast. One reason why forecast opex in 2012 is higher than opex in 2008-11 is because Multinet has forecast it will incur $12.7m of opex in 2012 related to metering. Multinet does not forecast these costs to be recurrent expenditure.

Table 6.1 compares the AER's draft decision to Multinet's proposal for each year of the 2013–17 access arrangement period.

Table 6.1 Comparison of AER draft decision to Multinet forecast ($million 2012)

	2013	2014	2015	2016	2017	Total
Multinet proposal	69.4	72.2	72.7	74.1	74.4	362.7
AER draft decision	52.4	53.1	53.7	55.3	55.7	270.3
Difference	-16.9	-19.1	-18.9	-18.8	-18.7	-92.4

Source: AER analysis

6.2 Multinet's proposal

Multinet has forecast its opex using a bottom-up forecasting approach whereby it has forecast the costs of each of the services it will provide in the 2013–17 access arrangement period. Multinet considers the methodology typically used in regulatory decisions, which bases forecast opex on historical opex, would be inappropriate because of a change in Multinet's business model.[433]

Since 2003, Jemena Asset Management (JAM) has provided a majority of Multinet's business operations, and a number of corporate and back office functions.[434] Under a business restructure, Multinet has re-tendered for several of its services and re-established other services in-house. Its restructure has already begun in advance of the expiry of Multinet's current contract with JAM on 30 June 2013.

As part of its bottom up forecasting approach Multinet has separated opex into four cost categories:

- Network operations
- Customer and market services
- IT services; and
- Corporate services and other internal costs

Multinet's forecasts are illustrated below in Table 6.2.

Table 6.2 Multinet's proposed forecast opex ($million real 2012)

	2013	2014	2015	2016	2017	Total
Network operations	35.7	38.5	38.9	39.3	39.6	192.0
Customer and market services	10.8	10.6	10.6	10.6	10.6	53.2

433 Multinet, *Access arrangement information,* 30 March 2012, p. 63.
434 Multinet, *Access arrangement information*, 30 March 2012, p. 42.

IT services	8.0	8.3	8.1	8.1	8.1	40.6
Corporate services and other internal costs	14.	14.8	15.1	16.2	16.1	77.0
Total operating expenditure	69.4	72.2	72.7	74.1	74.4	362.7

Source: Multinet, *Access arrangement information,* 30 March 2012, p. 62.

6.2.2 Forecast of outsourced costs

Multinet's outsourced opex forecasts relate to Multinet's forecast payments to JAM under its existing contract which expires on 30 June 2013 and the forecast costs of Multinet's new outsourced arrangements which begin on 1 July 2013. The forecast outsourced network operations costs relate to services provided for Multinet only. The forecast outsourced customer and market services and outsourced information technology costs relate to services provided to both Multinet and United Energy.

Multinet provided the AER with documentation of the tendering process and bid details for all new outsourcing arrangements scheduled to commence on 1 July 2013. Multinet also provided the evaluation of tenders for each stage of the tender process and board approval papers for each outsourced component of their forecast, and some information about how costs were allocated between Multinet and United Energy.

Multinet's engaged a consultant, GHD, to review its network operations and maintenance volume forecasts.

Table 6.3 Multinet's outsourced opex ($million 2012)

	2013	2014	2015	2016	2017	Total
Network operations	29.1	28.2	28.4	28.5	28.7	142.9
Customer and market services	5.9	4.8	4.7	4.6	4.6	24.6
IT services	6.0	6.3	6.1	6.1	5.9	30.4
Total operating expenditure	41.0	39.3	39.2	39.2	39.2	197.9

Source: Multinet, *Access arrangement information, 30 March 2012,* pp. 71–72, 82, 89.

6.2.3 Forecast of in-house costs

Multinet's forecast of in-house costs are for overheads, labour, and other direct costs it expects to incur in relation to its in-house network operations, customer and market services, IT services and corporate services. Some in-house costs are costs relating to services provided for both Multinet and United Energy.

Multinet's forecast of in-house labour costs included forecasts of 200 positions. Multinet's direct opex costs with the exception of IT have not been disaggregated.

In support of its in-house labour costs, Multinet submitted a full time equivalent staff (FTE) benchmarking report by AT Kearney and labour market remuneration reports by Geoff Nunn and Associates.

AT Kearney benchmarked Multinet's internal staffing levels against APA Allgas, Jemena JGN, SP AusNet and European gas distribution businesses.[435] Multinet considered AT Kearney's findings confirmed that Multinet's forecast number of FTEs is consistent with prudent and efficient staffing levels.[436]

Geoff Nunn and Associates compared Multinet's proposed labour remuneration against a group of organisations which participated in Market Remuneration in the Power, Water and Utilities Sectors, April 2011 survey. Geoff Nunn and Associates evaluated each role based on the position descriptions provided by Multinet and compared it to the remuneration structure of United Energy and Multinet.[437]

Table 6.4 Multinet's in-house opex ($million 2012)

	2013	2014	2015	2016	2017	Total
Network operations	6.6	10.3	10.5	10.8	10.9	49.1
Customer and market services	4.9	5.8	5.9	6.0	6.0	28.6
IT services	2.0	2.0	2.0	2.1	2.1	10.2
Corporate and other costs	14.8	14.8	15.1	16.2	16.1	77.0
Total operating expenditure	28.3	32.9	33.5	35.1	35.1	164.9

Source: Multinet, *Access arrangement information, 30 March 2012, pp. 74, 83, 90.*

6.2.4 Further submission from Multinet

The AER did not consider that the information put forward by Multinet in support of its operating expenditure forecasts contained sufficient supporting explanations as to why Multinet considers it necessary to carry out this expenditure and how its forecasts were constructed. In particular the AER could not understand from the information provided by Multinet in its access arrangement proposal why Multinet's opex was forecast to rise in relation to its historical opex and the factors causing this increase. This was a view also expressed by the Energy Users' Coalition of Victoria (EUCV) in its submission on Multinet's access arrangement proposal. [438]

On 4 June 2012 the AER sought further information from Multinet about the factors it considered were driving its costs in the 2013–17 access arrangement period compared to the

435 AT Kearney, *Multinet Gas Internal Staff Benchmarking*, December 2011, pp. 4–5.
436 Multinet, *Access arrangement information,* 30 March 2012, p. 96.
437 Geoff Nunn and Associates, *Market Remuneration Report: Selected Positions*, 17 January 2012.
438 Energy Users Coalition of Victoria, *Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012, p. 34.

2008–12 access arrangement period.[439] The AER considered information that compared Multinet's forecast opex to its historical opex was critical to an assessment of whether Multinet's total opex forecast satisfied the relevant NGR and NGL criteria.

In a further submission to the AER on 20 June 2012 in response to the AER's request, Multinet provided additional information to the AER in support of its proposal.[440]

This submission identified a number of cost drivers that Multinet considered had driven its costs in recent years and were forecast to continue to impact Multinet's costs in the near term. Table 6.5 shows the forecast impact of these costs over the 2013–17 access arrangement period relative to 2010 costs.

Table 6.5 Multinet's forecast cost drivers ($million 2012)

	2013	2014	2015	2016	2017	Total
Scope changes	6.4	6.4	6.4	6.9	7.7	33.7
Labour cost escalation	1.6	3.3	4.4	5.5	6.6	21.2
Growth	0.8	1.1	1.2	1.5	1.9	6.6
Other[441]	5.3	4.4	4.4	4.4	4.4	22.7
Total	14.1	15.1	16.3	18.2	20.4	84.2

Source: Multinet, *Response to AER information request 10, 20 June 2012, p. 22; Response to AER information request 38, 2 August 2012.*

The cost drivers Multinet identified as scope changes are illustrated below in Table 6.6.

Table 6.6 Multinet's forecast scope changes ($million 2012)

	2013	2014	2015	2016	2017	Total
Network development	2.0	2.0	2.0	2.0	2.0	10.0
EEO	0.3	0.3	0.3	0.3	0.3	1.5
Carbon tax administration	0.3	0.3	0.3	0.3	0.3	1.5
NECF - compliance reporting costs	0.1	0.1	0.1	0.1	0.1	0.5
Adjustment for cyclical GAAR costs	0.0	0.0	0.0	1.0	0.8	1.8
Increase in maintenance costs	2.2	2.2	2.2	2.2	2.2	10.9
NECF - new connections function	1.5	1.5	1.5	1.5	1.5	7.5

439 In particular, the AER's request asked for further information about the cost increases between when Multinet commenced its restructure (2010) and the first full year Multinet's new business structure is forecast to be in place (2014).

440 Multinet, *Response to AER information request 10,* 20 June 2012.

441 Includes forecast cost drivers Multinet identified that relate to its new business structure. They include an adjustment to include a normal competitive contractor margin, enhanced reporting requirements systems and governance, and transition and bedding-in costs.

Total	**6.4**	**6.4**	**6.4**	**6.9**	**7.7**	**33.7**

Source: Multinet, *Response to AER information request 10,* 20 June 2012*, p. 22; Response to AER information request 38,* 2 August 2012.

As part of this submission, Multinet also compared its bottom-up forecast to a forecast using a base year approach.

Multinet estimated that if using a base year of 2010, its opex forecast would be $374.0m over the next period. It estimates its opex forecast to be $378.8m using a base year of 2011.[442]

These estimates are $11.3m and $16.1m above Multinet's forecast opex using a bottom-up approach.[443] Multinet considers that this supports its position that its opex forecasts are reasonable and that the new business model is providing efficiencies.

6.3 Assessment approach

The AER has limited discretion in assessing opex.[444] The AER is required to assess Multinet's forecast opex to decide whether it is satisfied the forecast opex complies with applicable criteria prescribed by the NGL and NGR.[445] The AER must approve each element of Multinet's proposed opex if satisfied it complies with, and is consistent with, the criteria prescribed in the NGL and NGR.

The provisions of an access arrangement must be consistent with the national gas objective.[446] 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.[447]

The AER assessed Multinet's proposed opex against the criteria governing opex established by r. 91 of the NGR, the forecasting and estimate requirements under r. 74(2) of the NGR, the relevant transitional provisions including clause 5(1)(a) of Schedule 1 of the NGR regarding the operation of an incentive mechanism[448], and the national gas objective.[449] The AER has also taken into account the revenue and pricing principles.[450] Rules 91 and 74 of the NGR are set out below.

> **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.

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442 Compared to Multinet's opex forecast net of debt raising costs.
443 Compared to Multinet's opex forecast net of debt raising costs.
444 NGR, rr. 91(2) and 40(2).
445 NGR, rr. 91 and 40(2).
446 NGR, r. 100.
447 NGL, s. 23.
448 See also clause 2 of Schedule 1 of the NGR which provides: "Subject to this Schedule, the rules are to be read subject to such adaptations and modifications as are necessary to give full effect to a transitional arrangement under the rules."
449 NGR, r. 100; NGL s 23 and s 28(1).
450 NGL s. 24, s. 28(2)(b)

(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 Multinet's proposal to conform with rr. 74(2) and 91 of the NGR, the relevant NGR transitional provisions, the NGO and the revenue and pricing principles.

The AER has compared historical expenditure to forecast expenditure to better understand the key drivers behind Multinet's proposed forecast.

The AER has also taken into consideration the benchmarking studies provided. Multinet has submitted benchmarking reports from Economic Insights and Marchment Hill, 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 can sometimes be subjective and therefore have only been used as a supplement to other analyses in coming to a decision rather than the primary basis.

The AER received a submission from the EUCV on Multinet's forecast opex. The EUCV's comments are considered below where relevant.

The AER has undertaken a two stage assessment process in making its draft decision about Multinet's opex.

Stage 1 assesses whether or not to accept Multinet's forecast opex against the relevant NGR and NGL criteria. The AER's decision is not to accept Multinet's forecast.

Stage 2 considers what forecast of opex to use instead of Multinet's forecast, how the AER's forecast has been constructed and how it satisfies the relevant NGR and NGL criteria.

Stage 1 of the assessment process is discussed in section 6.4. Stage 2 is discussed in section 6.5.

6.4 Reasons for decision – AER assessment of Multinet's forecast opex (Stage 1)

The AER has first assessed Multinet's forecast opex against the relevant NGR and NGL criteria and concludes that forecast opex of $362.7m in the 2013–17 access arrangement period does not satisfy the relevant criteria.

The AER's reasons for not accepting Multinet's forecast of opex can be summarised as follows:

- Multinet's bottom-up forecast is not a forecast that has been arrived at on a reasonable basis or represents the best forecast possible in the circumstances.[451] In particular, Multinet's in-house cost forecasts are not substantiated. As Multinet does not undertake many of these services currently, Multinet has constructed many of its in-house forecasts without historical costs as a reference point and has not provided detailed information about how a forecast of each cost item has been arrived at and/or why this forecast is prudent and efficient.

- A comparison of historical opex to forecast opex demonstrates Multinet is forecasting a rise in opex in the 2013–17 access arrangement period relative to opex it incurred in the 2008–12 access arrangement period. The AER is not satisfied based on the evidence available to it that there are credible factors likely to explain this forecast increase. As such, relative to Multinet's historical opex, Multinet's forecast of opex is not a forecast of opex that satisfies rr. 74(2) or 91 of the NGR.

- Multinet's bottom-up forecasting methodology is inconsistent with the operation of the opex incentive mechanism that applies to Multinet in the 2008–12 access arrangement period. This is contrary to the transitional provisions under the NGR.[452]

To further test Multinet's proposal the AER has analysed benchmarking studies provided by Multinet and undertook its own benchmarking. The results of the benchmarking studies do not suggest that Multinet's historical opex is too low compared to its closest comparators—SP AusNet and Envestra. Therefore, on some benchmarking indicators, a large rise in Multinet's opex over the 2013–17 access arrangement period relative to its historical costs suggests the gap would widen between Multinet and SP AusNet and Envestra. This suggests that a large rise in Multinet's opex over the 2013–17 access arrangement period relative to its historical opex would not reflect the actions of a prudent service provider acting efficiently to achieve the lowest sustainable costs of delivering pipeline services.[453]

The AER's assessment of Multinet's forecast is discussed below in section 6.4.1 to section 6.4.3 under the following headings:

- comparison of historical opex to forecast opex
- assessment of Multinet's bottom-up forecasts
- assessment of cost drivers
- interaction of opex forecast with opex incentive mechanism
- benchmarking of Multinet's actual and forecast opex.

6.4.1 Comparison of historical opex to forecast opex

The AER first assessed Multinet's forecast opex by examining how its total opex forecast is expected to change in the 2013–17 access arrangement period compared to the 2008–12 access arrangement period. This exercise has been undertaken to understand what Multinet has forecast is contributing to its opex increases in relation to its historical opex.

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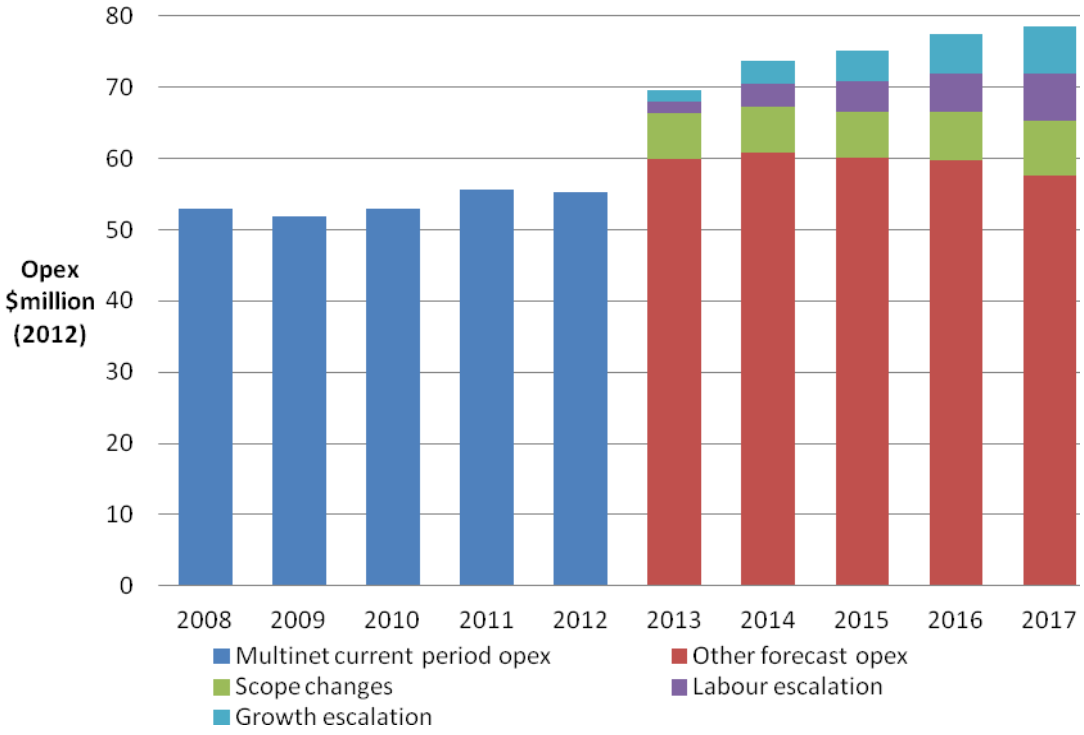
451 NGR, r. 74(2).
452 NGR, Schedule 1, Clause 2, 5(1)(a)
453 NGR, r. 91(1).

Figure 6.2 Comparison of historical opex to forecast opex ($million 2012)[454]



Source: AER analysis.

Multinet's business-as-usual opex is forecast to increase from $52.9m in 2010, the prior to when Multinet's restructure commenced, to a forecast annual average of $71.6m in the 2013–17 access arrangement period—a 36.1 per cent increase. The EUCV considered the forecast increase by Multinet above historical costs was not warranted.[455]

As illustrated by Figure 6.2 most of the forecast increase is attributable to Multinet's forecast increase in opex from scope changes, labour cost escalation and growth escalation. In relation to 2010 costs, the forecast impact of these factors is $61.5m ($2012) over the 2013–17 access arrangement period.

The remainder of the gap between historical costs and forecast costs is an estimation of the net forecast increase in opex attributable to Multinet's new business structure. In relation to

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454 For the purposes of comparison the AER has taken the information submitted by Multinet on its historical costs and forecast costs as illustrated in Figure 6.1 and made adjustments so that opex best reflects Multinet's actual and forecast recurrent costs. The adjustments made by the AER are a reduction in forecast costs in 2012 for a once off increase in metering of $12.7m that Multinet has forecast it will incur in 2012, and a reduction in the estimate of costs incurred by Multinet between 2008–12 to reflect information Multinet provided about the actual costs underlying the fee it paid for corporate services in 2010. Forecast opex does not include forecast debt raising costs.

455 Energy Users Coalition of Victoria, *Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012, p. 36.

2010 costs, based on Multinet's forecast, the AER estimates the impact of this factor is $33.8m ($2012) over the 2013–17 access arrangement period.[456]

The AER's examination of Multinet's explanations for the factors driving these cost increases and whether the resulting forecast represents a forecast of opex that satisfies the NGR and NGL criteria is discussed below.

6.4.2 Assessment of Multinet's bottom-up forecast

The AER has next assessed both Multinet's outsourced and in-house costs against relevant requirements of the NGR.[457]

Following this assessment, the AER has concluded that Multinet's proposed forecast is not a total forecast of opex that has been arrived at on a reasonable basis or is the best forecast possible in the circumstances.[458]

As Multinet has submitted a bottom-up forecast, Multinet's forecasts were constructed in detail with a forecast for each line item for each service Multinet expects to provide in the 2013–17 access arrangement period. Multinet did not provide information about the historical costs for many of the services it expects to provide. Many line items were not supported with any, or with only limited information about how forecasts were constructed.

Given the subjectivity involved in estimating the costs of each line item, and the limited information to support the forecast of each line item, the AER is not satisfied of the robustness of Multinet's approach. The AER considers that without information about the historical costs of providing all services, and rigorous benchmarking of total costs which suggests Multinet total forecast would be efficient compared to similar organisations, it cannot conclude Multinet's forecasts have been arrived at on a reasonable basis.[459]

Specifically, in relation to Multinet's forecasts of the cost of outsourced services, the AER has reviewed Multinet's outsourced tenders and is satisfied that the tendered unit costs are likely to be efficient because of the competitive tendering process.

However, the AER is not satisfied that Multinet's volume forecasts have been arrived at on a reasonable basis.[460]

In reaching these conclusions the AER has reviewed the report by Multinet's consultant, GHD. GHD assessed whether network and maintenance volume activities undertaken between 2008 and 2011 provide a reasonable basis for Multinet to forecast expenditure for the 2013–17 access arrangement period.[461] GHD assessed the data quality of Multinet's work volumes known as activity codes. Of the 130 activity codes provided to GHD, it only

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456 The AER has forecast cost drivers on the basis of the costs Multinet actually incurred in 2010. Note the difference between the forecast provided by Multinet, replicated in table Table 6.5. Some differences between the costs incurred by Multinet in 2010 and its forecasts were not explicitly identified by Multinet as a cost driver, and thus were not included in table Table 6.5.

457 NGR, rr. 74(2) and 91(1).

458 NGR, r. 74(2).

459 NGR, r. 74(2)(a).

460 NGR, r. 74(2)(a).

461 GHD, *Operating and maintenance expenditure 1 January 2013 to December 2017*, March 2012, p. i.

considered 89. There were various reasons why GHD did not consider other activity codes. Reasons provided by GHD were:

- some activity codes were either not from a source field document or that activity code units had changed
- inconsistent activity code volumes and financial data
- activity codes with volumes obscured
- activity codes where volumes do not alter as expected.[462]

GHD assessed that individually the activity codes that were not assessed may not have a material impact on total costs. The AER has reviewed Multinet's forecast volumes. The AER agrees with GHD's conclusion in relation to the materiality of the 41 excluded codes but only in so far as an individual code of itself does not materially affect total costs. In contrast, in aggregate, the AER is not satisfied that forecast opex from 41 excluded activity codes would not have a material impact on forecast opex. Therefore, the AER is not satisfied that the volumes for 41 codes that were not reviewed by GHD were arrived at on a reasonable basis.

The AER also notes that while many of the 89 other forecast volumes of the individual volumes reviewed by GHD are similar to its historical volumes, there are many instances where forecast volumes are different to historical volumes. As with the above, the AER accepts the cost impact may be small in isolation, where one forecast volume slightly deviates from a historical volume. However, in aggregate, the AER is not satisfied that using the proposed forecasts as an alternative to historical volumes, does not have a material impact on total costs. Therefore, for this reason the AER is also not satisfied that, in aggregate, Multinet's network operations and maintenance forecasts have been arrived at on a reasonable basis or represent the best forecast possible in the circumstances.[463] It is therefore not satisfied that Multinet's forecast is a forecast of opex that would reflect a prudent service provider acting efficiently in accordance with accepted good industry practice to achieve the lowest sustainable cost of delivering pipeline services.[464]

In relation to Multinet's in-house forecasts, the AER notes that for many costs only general information has been provided about how each cost was forecast. For instance, Multinet submitted limited information about how it forecast most in-house direct costs and its overheads. Without robust information to support its forecasts, the AER is also not satisfied that these forecasts have been arrived at on a reasonable basis or are the best estimate possible in the circumstances.[465] Therefore the AER is also not satisfied that these forecasts reflect a forecast of opex that would satisfy r. 91 of the NGR.

In relation to Multinet's bottom-up approach to forecasting its labour requirements, Multinet did not substantiate these forecasts with a rigorous comparison of total labour costs incurred by similar organisations. Without such supporting evidence, the AER is not satisfied that these forecasts were arrived at on a reasonable basis or are the best possible in the

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462 GHD, *Operating and maintenance expenditure 1 January 2013 to December 2017*, March 2012, p. 45.
463 NGR, r. 74(2).
464 NGR, r. 91(1).
465 NGR, r. 74(2).

circumstances.[466] The AER also cannot consider that Multinet's labour costs reflect a forecast of opex that would satisfy r. 91 of the NGR.

The AER has also examined the report submitted by AT Kearney which Multinet submitted as additional support for its labour forecasts.[467] The AT Kearney report benchmarks the number of FTEs against other gas distribution businesses. AT Kearney adjusts for differences in outsourcing levels, network size, asset value and customer numbers. AT Kearney concluded that the proposed internal staffing levels are appropriate and overall represent a slight efficiency improvement over the current operating agreements and above average efficiency compared to benchmarks from other Australian and European gas businesses.

The AER does not consider that AT Kearney's conclusions are robust evidence that the labour forecasts submitted by Multinet are prudent and efficient. The AER is not satisfied that benchmarking of employee numbers without benchmarking of total labour costs is useful in demonstrating that the total forecast labour costs are costs that would be incurred by a prudent service provider acting efficiently in accordance with accepted good industry practice to achieve the lowest sustainable costs of delivering pipeline services.[468] The AER also notes that the methodology employed by AT Kearney is dependent on many assumptions. However, these assumptions are not set out in the report. Without this transparency, which would then allow the AER to assess the legitimacy of the assumptions, the AER is not satisfied that the forecasts are arrived at on a reasonable basis and provide the best forecast possible in the circumstances.[469]

The AER also notes that Multinet justified its in-house salaries on the basis of advice from Geoff Nunn and Associates. However the advice from Geoff Nunn and Associates provided to the AER only assessed some salaries.[470] It is unclear to the AER how Multinet determined the forecast remuneration for other salaries. For the salaries the consultant did assess, the AER was unable to reconcile many of the findings of the report with the information submitted to the AER about in-house labour forecasts. This further confirms the AER's conclusion that the forecasts of in-house labour have not been arrived at on a reasonable basis or are the best forecasts possible in the circumstances.[471]

6.4.3 Assessment of cost drivers

Assessment of scope changes, labour cost escalators and growth

As part of its assessment of Multinet's forecast of opex, the AER also considered cost drivers identified by Multinet.

As discussed in section 6.4.1, the AER considers that several cost drivers do not relate to Multinet's business restructure. These are scope changes, labour cost escalation and growth. The AER considers these forecasts can be assessed separately.

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466 NGR, r. 74(2).
467 AT Kearney, *Multinet Gas internal staff benchmarking - final report*, December 2011.
468 NGR, r. 91(1)
469 NGR, r. 74(2).
470 Geoff Nunn and Associates, *Market remuneration reports: selected positions*, 17 January 2012, 7 February 2012, 1 March 2012.
471 NGR, r. 74(2).

The AER is not satisfied that the forecasts of many of the scope changes comply with r. 91 of the NGR or that the labour cost and growth escalators comply with r. 74(2) of the NGR. This is further evidence that a total forecast of opex inclusive of these cost drivers is a forecast of opex that does not satisfy the relevant NGR criteria.[472]

Table 6.7 illustrates the difference between Multinet's forecast of the impact of the costs from 2011 and the AER's assessment.

The full details of the AER's assessment of each of these cost drivers is discussed in section 6.5.

Table 6.7 Multinet's forecast and AER assessment of cost drivers ($million 2012)

	Multinet forecast[473]	AER assessment
Network development	10.0	–
Energy Efficiency Opportunities	1.5	0.5
Carbon tax administration	1.5	0.5
NECF	8.0	–
Cyclical GAAR costs	–0.7	–0.7
Increase in maintenance costs	11.3	–
Labour cost escalation	21.3	6.8
Output growth	6.1	2.5

Source: Multinet, *Response to AER information request 10,* 20 June 2012, AER analysis.

Assessment of other factors

The gap between Multinet's historical costs and its forecast costs, excluding the above cost drivers, appear to be driven by Multinet's business restructure. That is, it is attributable to Multinet moving from a model whereby most services are undertaken by a sole outsourced provider, to a model where an increased proportion of services will be undertaken in-house, and outsourced services will be undertaken by several specialised providers.

Taking into account the costs drivers discussed in section 1.5, the AER considers that there are no other cost drivers that explain, in total, why Multinet's forecast opex would be materially higher than its historical opex. This reinforces the AER's assessment that Multinet's total forecast of opex does not meet the rr. 74(2) and 91 criteria.

In relation to cost drivers relating to Multinet's business restructure, the AER has assessed information submitted by Multinet in relation to why it has restructured. The AER has considered this information to assess whether it would be reasonable to expect that, after the restructure, a forecast of Multinet's efficient opex should be higher than Multinet's recent

472 NGR, rr. 74(2), 91(1).

473 Multinet's forecast cost drivers is from its 2011 base year estimate. Note the differences from Table 6.5 which is Multinet's forecast increase compared to 2010.

actual opex. In undertaking this assessment the AER has assessed whether Multinet's historical costs are likely to reflect efficient opex.

Prior to Multinet's restructure, the majority of Multinet's actual costs consisted of the fee it paid to its current contractor, JAM, for most of Multinet's business operations and some corporate functions. As the fee paid to JAM represents the majority of Multinet's actual costs in the 2008–12 access arrangement period, in assessing whether a forecast of Multinet's efficient opex should be higher than Multinet's actual opex, the AER has assessed whether the fee paid to JAM is likely to be reflective of an efficient level of opex.

The AER has confirmed that JAM made a loss on this contract. Therefore if JAM were to continue to provide these services after 30 June 2013, the AER agrees, all other factors being equal, it is reasonable to assume that JAM would seek to increase the fee it charged, and this would lead to Multinet's costs being higher in the 2013–17 access arrangement period.

However, while JAM did make a loss in providing services to Multinet in the 2008–12 access arrangement period, in assessing whether the fee paid to JAM is likely to be reflective of efficient opex, the AER has also considered the efficiency of Multinet's current business model relative to Multinet's new business model.

By restructuring and removing JAM as its main outsourced provider, it is reasonable to expect a forecast of Multinet's efficient costs for equivalent services to be lower relative to the costs incurred by JAM under Multinet's current business model. This would be consistent with Multinet's claims about the efficiency of its new business model.[474] If Multinet did not expect its new business model to be a more efficient model than its current business model then the AER considers Multinet would not have restructured in the way it has.

While it is not possible to quantify the expected efficiencies from Multinet's new business model relative to its current business model, the information provided by Multinet about the expected efficiencies indicates Multinet's current business model is not the most efficient model available. For this reason, the AER cannot conclude JAM's costs are reflective of an efficient level of opex. Moreover, the AER cannot conclude that a forecast of efficient opex in the 2013–17 access arrangement period would be materially higher than Multinet's historical opex because the fee it paid to JAM was not enough to cover JAM's costs.

The AER also has not been presented with any evidence to suggest the levels of service provided to Multinet's customers in the 2008–12 access arrangement period were unsatisfactory. Therefore, there is also no evidence to suggest that a forecast of efficient costs in the 2013–17 access arrangement period would be higher because Multinet's new business model would be expected to deliver a higher level of service to Multinet's customers.

An assessment of all the factors considered by the AER in assessing the efficiencies of a Multinet's new business model relative to its current business model is considered below and in confidential appendix E.

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474 Multinet, *Access arrangement information*, 30 March 2012, pp. 19, 20, 45–46, 59–61, 67.

Expected efficiencies from new outsourced arrangements

Multinet has engaged two providers to provide network operations and maintenance services from 1 July 2013. JAM will continue to provide network operations and maintenance services for Multinet, but only in the North region of Multinet's services, while Comdain will operate in the South region. Multinet noted that engaging two parallel service providers will provide transparency about their relative costs and will facilitate cost benchmarking. Multinet expects this will create continuous price competition between the providers.[475] The AER would expect price competition to lead to efficiency gains.

Multinet also expects efficiencies to arise from the other services it will outsource under its new business model. For instance, Multinet's current business model precludes it from contracting directly with specialist providers. Multinet notes that opportunities to drive cost efficiencies or service improvements through competitive pressures are not available to it at present.[476] The AER considers that Multinet's reasons for outsourcing its customer and market services and its IT services suggests that Multinet considers it could achieve greater efficiencies and hence lower costs by contracting directly with specialist providers.

While it is not possible to quantify the net effect of the relative expected efficiencies, the AER agrees that these new outsourcing arrangements should result in a lower cost than the cost incurred by JAM under Multinet’s current business model.

The AER has also considered information provided by Multinet concerning the bids for the new outsourcing contracts to consider whether Multinet's new outsourced arrangements are likely to be more efficient that the costs incurred by JAM. This further supports the AER's expectations about the relative efficiency of Multinet's existing outsourced arrangements. See confidential appendix E for further details.

Expected efficiencies from new arrangements for in-house service provision

In relation to the relative cost of in-house services, Multinet notes a benefit of restructuring is the strengthening of internal management resources and greater strategic management capability.[477] Multinet did not provide evidence that the costs of providing services would be likely to be cheaper in-house as opposed to outsourcing the equivalent services to JAM. However, the AER considers that a likely benefit of strengthened management arrangements would be lower costs in other areas of its business. This would be consistent with Multinet's general claim that its new business outsourcing structure (which includes bringing some services in-house) would be more efficient.

Levels of service under Multinet’s current business model

The AER also examined whether there is evidence that the current business model was sufficient for Multinet to meet its regulatory obligations and provide adequate service levels. For instance, if the costs incurred by JAM were too low it may suggest that an increase in opex is required to ensure that customers are provided with an adequate quality of service.

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475 Multinet, *Access arrangement information*, 30 March 2012, p. 56.
476 Multinet, *Access arrangement information*, 30 March 2012, p. 43.
477 Multinet, *Access arrangement information*, 30 March 2012, p. 49.

The AER made several requests for any evidence of this kind following Multinet's claim in relation to its current business model that there was 'some evidence of cost overshooting' such that costs had been cut to unsustainably low levels.[478] However, despite repeated requests by the AER for evidence to support this claim, Multinet provided no evidence in support of this statement.[479]

The AER is not aware of any other evidence to suggest that Multinet did not provide adequate levels of service in the 2008–12 access arrangement period or that it did not meet its regulatory obligations. On the contrary, Multinet has referred to its superior service performance in the last ten years.[480]

On the basis of the above assessment, the AER has concluded that the level of service does not explain or account for the higher forecast of efficient opex in the 2013–17 access arrangement period relative to Multinet's actual opex in the 2008–12 period.

6.4.4 Interaction of opex forecasting methodology with the opex incentive mechanism

In assessing Multinet's opex forecast the AER has also considered the interaction of the opex forecasting methodology with the opex incentive mechanism that applied to Multinet in the 2008-12 access arrangement period.

The AER considers that adopting a bottom-up methodology would not result in the best forecast of opex for preserving the continuity of the incentive mechanism applied by the ESC in its access arrangement decision for Multinet for the 2008-12 access arrangement period. This would be inconsistent with transitional clause 5(1)(a) of Schedule 1 of the NGR which provides that in deciding whether to approve an access arrangement revision proposal for a transitional access arrangement, the AER must take into account the operation of an incentive mechanism in that access arrangement. The AER's reasoning for this view is set out below.

In forecasting opex for the 2008-12 access arrangement period the ESC used a base year methodology in combination with an opex incentive mechanism. This approach is the same as the approach typically applied by the AER.

This approach provides a regulated business with continuous incentives to become more efficient over time. To ensure that the incentives facing a regulated business are the same throughout time, when an opex incentive mechanism applies, the opex forecast in the next regulatory period must be set consistently with how the rewards or penalties are calculated in the opex incentive mechanism that applies in the current period. If not, the relative rewards to the regulated business for achieving efficiency gains or losses will not be the same across

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478 Multinet, *Access arrangement information*, 30 March 2012, p. 43.

479 AER, *Multinet - information request 1*, 26 April 2012; AER, *Multinet - information request 1 - follow up*, 11 May 2012; Multinet, *Summary of 26th April letter,* 11 May 2012; AER, *Multinet - information request 1 - follow up*, 15 May 2012; AER, *Multinet - information request - follow up*, 31 May 2012.

480 Multinet, *Access arrangement information*, 30 March 2012, p. 44.

regulatory periods. The regulated business may have an incentive to defer efficiency gains or shift expenditure into the base year.[481]

Under the ESC mandated mechanism, this approach provided Multinet with the same reward or penalty for an efficiency gain irrespective of the year in which the particular gain (or loss) was made.[482] The efficiency gain (or loss) achieved by Multinet would be carried forward and retained for a further five years following the year in which the gain (or loss) was made, with no clawback of gains and losses incurred during that period: [483]

> (1) The incentive arrangements that are to apply to cost-related efficiencies achieved by the Service Provider, and the adjustment to preserve the incentive to meet efficient growth in demand are a combination of:
>
> > (A) a tariff basket form of price control; and
> >
> > (B) the carryover that would result in the Service Provider retaining the reward associated with an efficiency improving initiative for five years after the year in which the gain was achieved, ie. a reward (being the net amount of the efficiency gains (or losses) relating to capital and operating expenditure) earned in one year of an Access Arrangement Period would be added to the Total Revenue and carried forward into the Fourth Access Arrangement Period if necessary, until it has been retained by the Service Provider for a period of a full five years.
>
> (2) There would be no claw-back of gains that have already been made (or losses that have been incurred) during the Third Access Arrangement Period.

As discussed in attachment 7, Multinet has incurred a penalty of $13.4m ($2012) from the application of the opex incentive mechanism that applied to it in the 2008-12 access arrangement period.[484] If an opex forecast were used by the AER that resulted in a higher opex forecast for Multinet than would be obtained from a base year estimate, it would be easier for Multinet to achieve efficiency gains in the 2013-17 access arrangement period than in the 2008-12 access arrangement period. If this were the case, the effective penalty facing Multinet for its efficiency losses from the 2008-12 access arrangement period would be reduced, and the losses made by Multinet in the 2008-12 period would be clawed back as they would not be retained by Multinet for a full five years.

This approach would be inconsistent with the transitional arrangements in the rules. The ESC's approach was intended to carry forward gains (or losses) for five years following the year in which the gain (or loss) was made. The AER therefore considers that the opex forecasting methodology adopted by the AER must be also be aligned with the operation of Multinet's 2008-12 access arrangement so as to result in the best forecast of opex for preserving the continuity of the incentive mechanism (and the incentives that this approach provides). Any other approach for forecasting opex would be inconsistent with transitional

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481 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.

482 Essential Services Commission of Victoria, *Gas Access Arrangement Review 2008–2012*, 7 March 2008, p. 570.

483 Multinet, *National Gas Law Access Arrangement by Multinet Gas (DB No. 1) Pty Ltd and Multinet Gas (DB No. 2) Pty Ltd trading as Multinet Gas Distribution Partnership for the Distribution System ("Multinet") Part B – Reference Tariffs and Reference Tariff Policy*, clause 6.4(a)(1) and clause 6.4(a)(1), 2 June 2008, pp. 14

484 ESCV, *Gas Access Arrangement Review 2008-2012*, 7 March 2008, p. 570

clause 5(1)(a) of Schedule 1 and with the transitional rules more generally which provide that full effect is to be given to transitional access arrangements.

6.4.5 Benchmarking of Multinet's actual and forecast opex

The final assessment undertaken by the AER in reviewing Multinet's forecast opex has been to assess benchmarking reports submitted by Multinet in support of its proposal. The AER has also undertaken its own benchmarking to supplement these studies. The AER has used benchmarking to test its conclusion that Multinet's total opex forecast is a forecast of opex that has not been arrived at on a reasonable basis, is the best forecast possible in the circumstances, or reflects 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.[485]

Multinet's access arrangement information contained several benchmarking reports in support of its overall opex forecasts:

- Total factor productivity (TFP) and partial factor productivity (PFP) analysis by Economic Insights comparing the performance of each of the Victorian distribution businesses against the New South Wales gas distribution business, Jemena Gas Networks (JGN), Envestra's South Australian network (Envestra SA) and Envestra's Queensland network (Envestra Qld) from 1999 to 2011.[486]

- Partial productivity indicator (PPI) analysis by Economic Insights considering the performance of 14 gas distribution businesses in Australia and New Zealand including the Victorian gas distribution businesses over 1999–2010 in relation to 16 operating and performance indicators.[487]

- A PPI analysis study by Marchment Hill Consulting comparing the performance of Multinet to USA and UK gas distribution businesses.[488]

The AER does not consider that these reports provide any additional evidence to support Multinet's forecast of opex.

The AER's observations about these reports are set out below.

The Economic Insights' TFP and PFP studies in general illustrate the performance of the Victorian gas distribution businesses is relatively strong compared to the other gas distribution companies it sampled.

However, in recent years Multinet has experienced declining productivity growth. The average annual growth rate of Multinet's opex partial PFP was 2.8 per cent for the last ten years but has slowed to 1.6 per cent for the last five years.[489] The average annual growth rate of

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485 NGR, rr. 74(2) and 91(1).

486 Economic Insights, *The total factor productivity performance of Victoria's gas distribution industry*, 26 March 2012.

487 Economic Insights, *Benchmarking the Victorian gas distribution businesses' operating and capital costs using partial productivity indicators*, 26 March 2012.

488 Marchment Hill Consulting, *Multinet Gas international benchmarking*, January 2012.

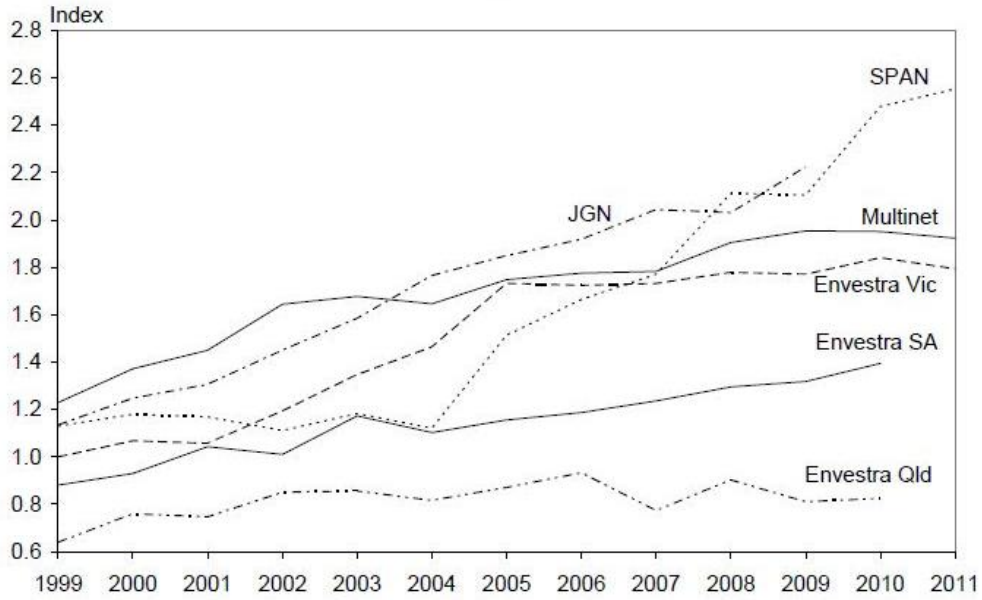
489 Economic Insights, *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry*, 26 March 2012, p. iii.

Multinet's TFP index was 0.8 per cent for the last ten years but has declined to –0.5 per cent for the last five years.[490]

The AER agrees that a prudent service provider acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of delivering pipeline services would attempt to improve its productivity in the 2013–17 access arrangement period. However, the AER does not consider that declining productivity in the current access arrangement period should necessitate an increase in total opex in the next access arrangement period. In general the AER would expect that all factors being equal, a prudent service provider that does expect to improve its productivity would expect to achieve lower opex.

Figure 6.3 and Figure 6.4 illustrate the TFP and PFP performance of all businesses sampled by Economic Insights over the 1999–2011 period.

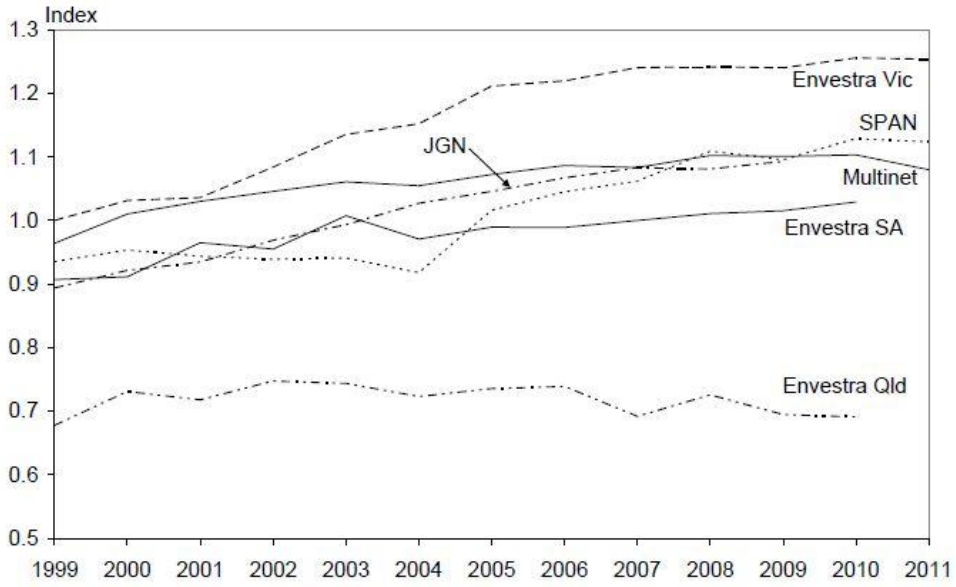
Figure 6.3 Australian gas distribution businesses multilateral opex PFP indexes, 1999–2011



Source: Economic Insights, *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry*, 26 March 2012, p. 45.

[490] Economic Insights, *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry*, 26 March 2012, p. iii.

Figure 6.4 Australian gas distribution businesses multilateral TFP indexes, 1999–2011



Source: Economic Insights, *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry*, 26 March 2012, p. 44.

In relation to opex PPIs, Economic Insights concluded that all the Victorian gas distribution businesses (including Multinet) had performed strongly compared to the other gas distribution businesses in the sample.[491] Table 6.8 illustrates the relative performance of Multinet on opex PPIs in 2010.

Table 6.8 Relative performance of Multinet in Economic Insights' PPI study

Partial productivity measure	**Multinet rank in 2010 relation to fourteen businesses**
Opex per TJ	third lowest
Opex per customer	third lowest
Opex per km	twelfth lowest
Opex per unit output	third lowest

Source: Economic Insights, *Benchmarking the Victorian gas distribution businesses' operating and capital costs using partial productivity indicators*, 26 March 2012.

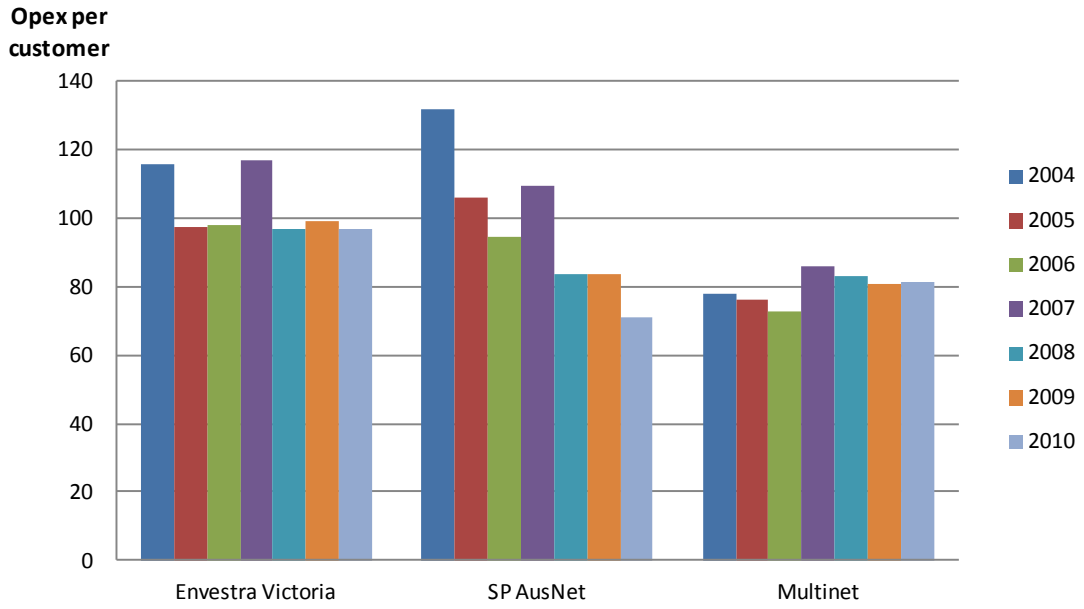
To further test the performance of Multinet the AER also undertook PPI analysis of the opex performance of the Victorian distribution service providers over the 2004 to 2010 period and calculated forecast PPIs for Multinet over the 2013–17 access arrangement period.

This evidence illustrates in relation to its closest comparators, SP AusNet and Envestra, Multinet's historical performance is not superior.

[491] Economic Insights, *Benchmarking the Victorian gas distribution businesses' operating and capital costs using partial productivity indicators*, 26 March 2012, p. ii.

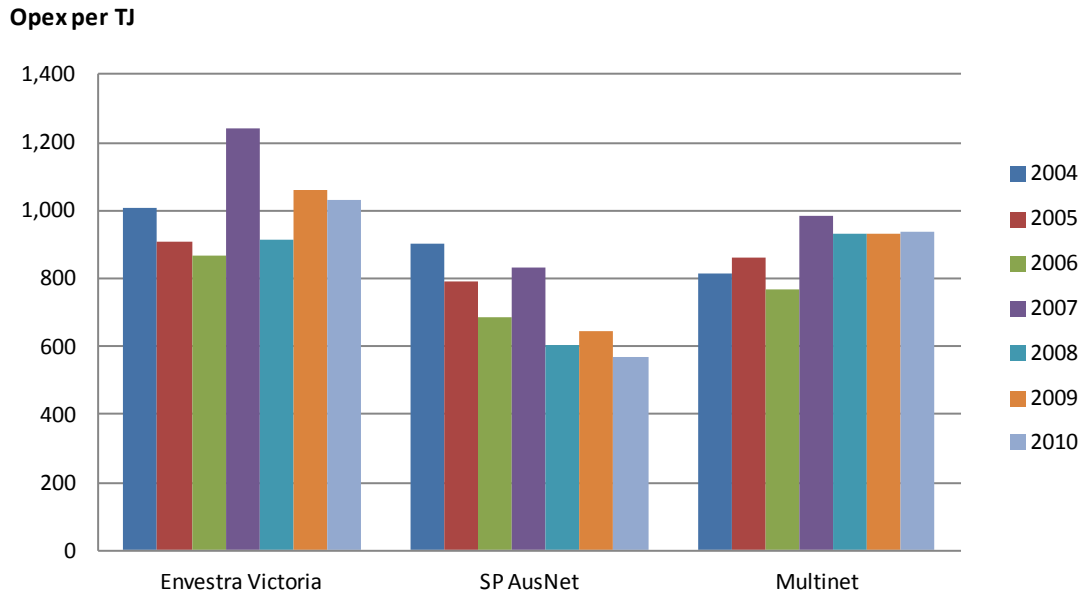
For instance as illustrated by the PPIs calculated by the AER in Figure 6.5 to Figure 6.8 in comparison to Multinet's closest peers, Multinet's recent performance on many PPIs is comparable to Envestra Victoria but demonstrates relatively weaker performance to SP AusNet on all indicators. This data also illustrates that Multinet has demonstrated stagnant performance in relation to these indicators over the period studied, while SP AusNet's performance has steadily improved.

Figure 6.5 Benchmark of Victorian gas distribution service providers by opex per customer (2004–10) ($2012)



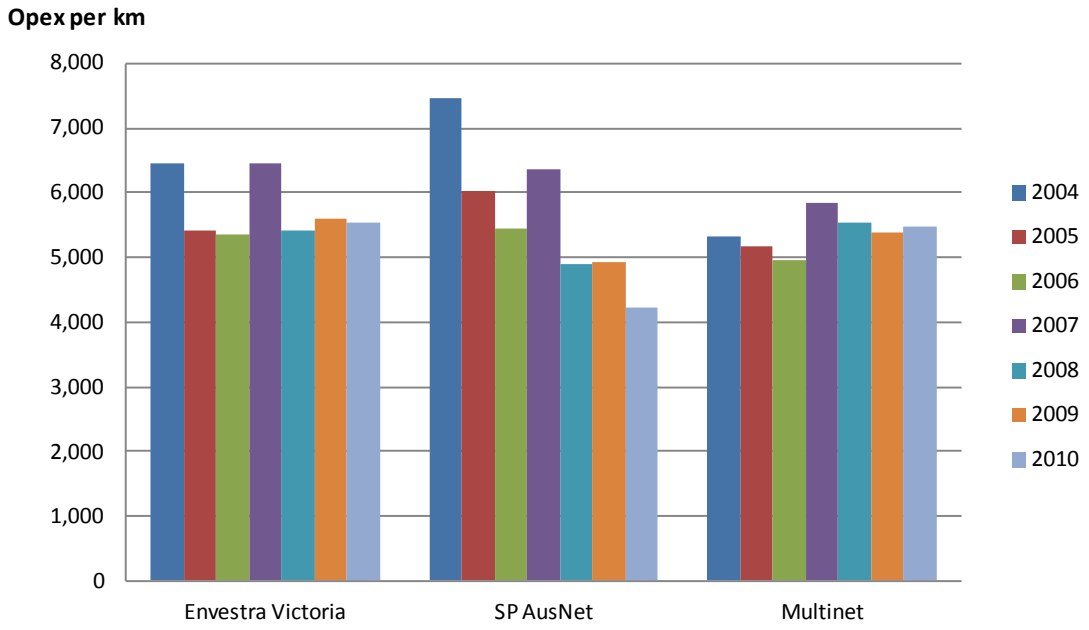
Source: AER analysis.

Figure 6.6 Benchmark of Victorian gas distribution service providers by opex per TJ (2004–10) ($2012)



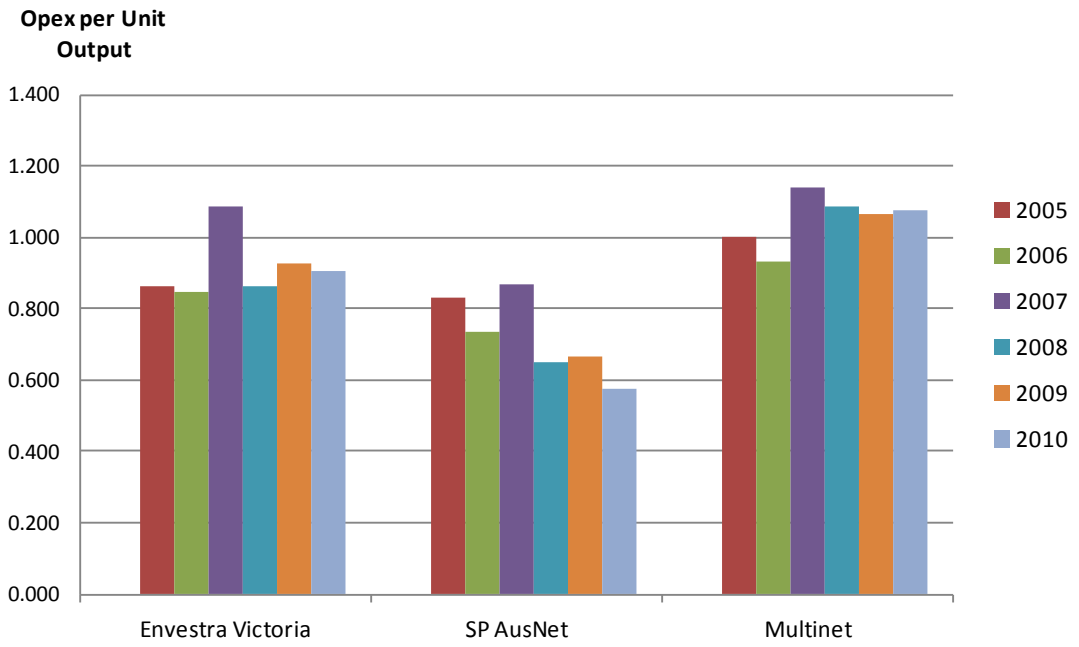
Source: AER analysis.

Figure 6.7 Benchmark of Victorian gas distribution service providers by opex per km (2004–10)



Source: AER analysis.

Figure 6.8 Benchmark of Victorian gas distribution service providers by opex per unit output (2005–10)

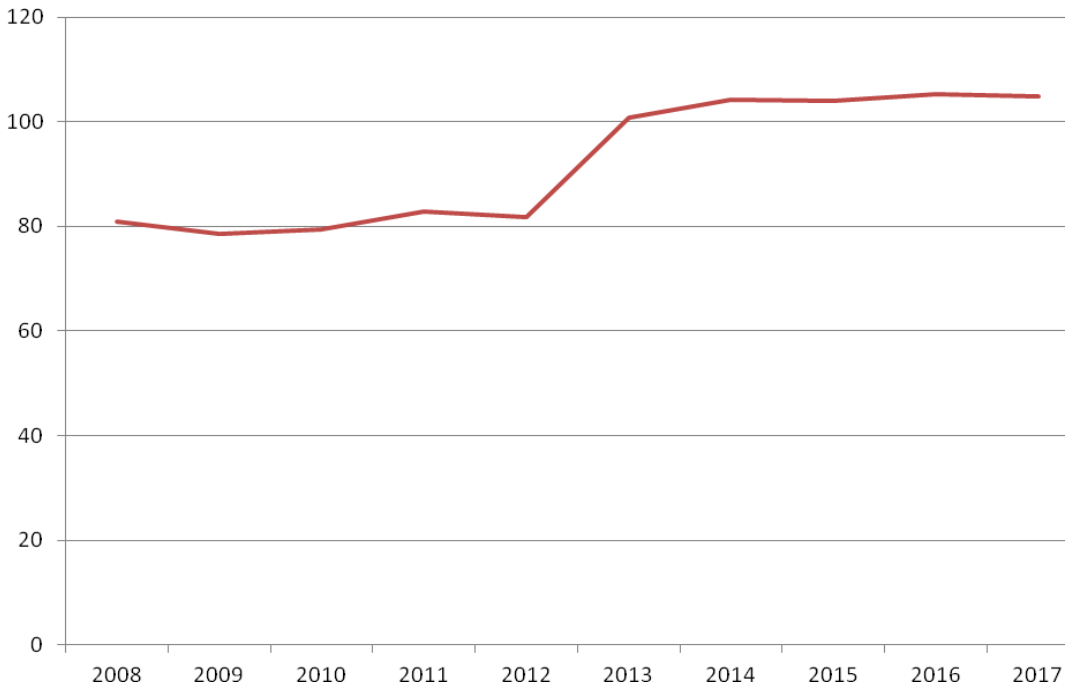


Source: AER analysis.

Further, as illustrated below by Figure 6.9 to Figure 6.11, Multinet's forecast performance in relation to opex per km, opex per customer and opex per GJ would be expected to decline in relation to opex PPIs in the 2013–17 access arrangement period.[492]

The AER notes that benchmarking studies of this type do not provide definitive evidence about whether a particular amount opex is or is not efficient. However, a large rise in Multinet's opex against various PPIs, all other factors being equal, would widen the gap between Multinet and its closest peers - SP AusNet and Envestra. This suggests that a large rise in opex over the 2013–17 access arrangement period relative to historical opex, as forecast by Multinet, would not satisfy r. 91 of the NGR.

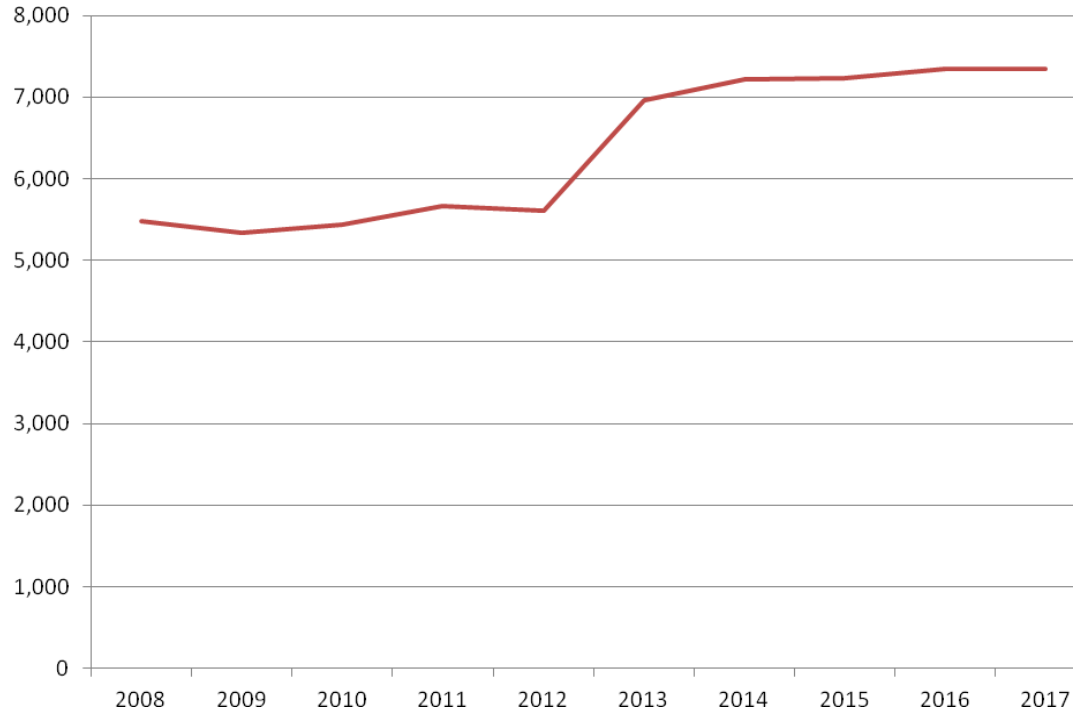
Figure 6.9 Operating expenditure per customer



Source: AER analysis.

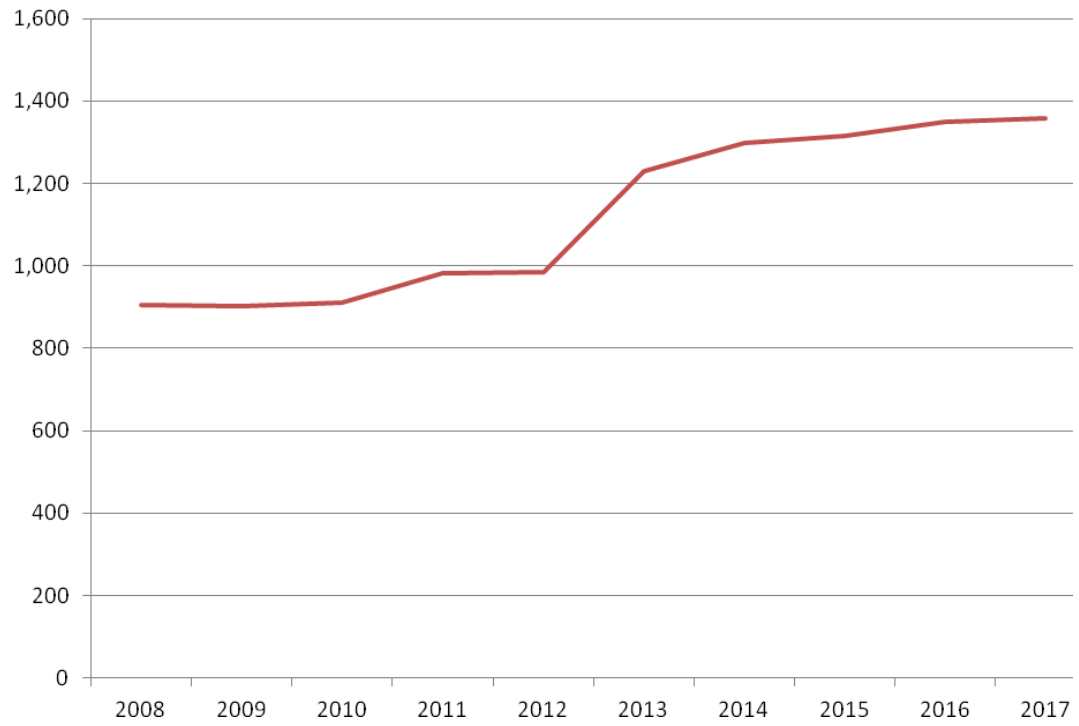
[492] Forecast non-recurrent metering costs of $12.7m in 2012 have not been included in the forecast of opex in 2012.

Figure 6.10 Operating expenditure per network length (km)



Source: AER analysis.

Figure 6.11 Operating expenditure per TJ



Source: AER analysis.

The AER also notes that the Marchment Hill benchmarking study submitted by Multinet demonstrates Multinet's actual performance in 2010 is, in general, comparable to US and UK gas distribution companies. However as the AER considers firms in other countries do not

necessarily face the same economic conditions and cost pressures as Victorian gas businesses, the AER has not placed much weight on this report.

In any case as Multinet's opex in 2010 is much lower than Multinet's forecast opex for the 2013–17 access arrangement period, Multinet's performance in relation to many PPIs would be expected to decline. Therefore the AER considers the Marchment Hill report does not provide any additional evidence that Multinet's forecast opex for the 2013–17 access arrangement period satisfies rr. 91 and 74 of the NGR.

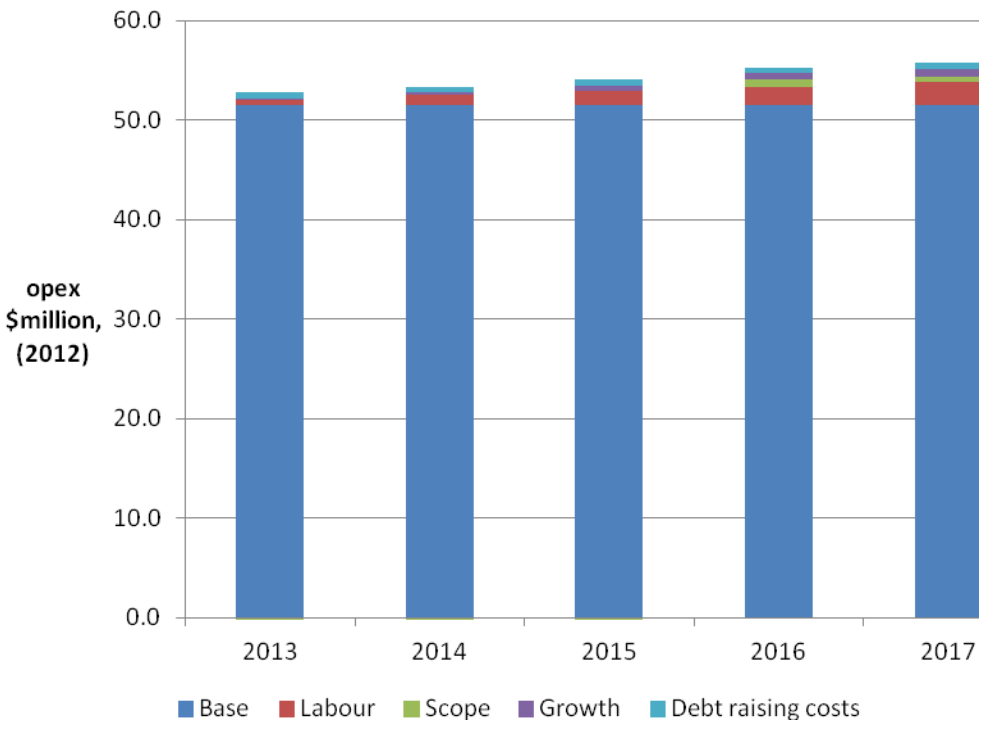
6.5 Reasons for decision - AER forecast of opex (Stage 2)

As the AER does not consider that Multinet's forecast opex of $362.7m is a forecast of opex that is consistent with the relevant criteria of the NGR and NGL, the next step of the AER's assessment of opex is to propose an alternative forecast of opex.

The AER considers that a forecast of $270.3m would satisfy the relevant NGR and NGL criteria. The AER's forecast of opex is constructed using Multinet's actual opex in 2011 as the base with adjustments for forecast labour cost escalation, growth and scope changes. This is the AER's typical approach to forecasting opex.

The effect of the AER's draft decision is set out below in Figure 6.12 and Table 6.9.

Figure 6.12 Disaggregation of AER draft decision



Source: AER analysis.

Table 6.9 AER draft decision on Multinet's opex ($million 2012)

	2013	2014	2015	2016	2017
Base	51.6	51.6	51.6	51.6	51.6

Labour	0.5	0.9	1.4	1.8	2.3
Scope	-0.3	-0.3	-0.3	0.7	0.5
Growth	0.2	0.3	0.5	0.7	0.8
Debt raising costs	0.6	0.6	0.6	0.5	0.5
Total	52.4	53.1	53.7	55.3	55.7

Source: AER analysis.

In considering what alternative forecasting methodology to apply, the AER has considered Multinet's views that the AER's typical approach to forecasting opex would not be appropriate.

> "In Multinet's case its operating environment will change radically in the forthcoming Access Arrangement Period to address the unsustainable aspects of its current business model...(F)or these reasons the 'year 4' forecasting methodology would be totally inappropriate for Multinet's circumstances. The methodology would wrongly assume that the business model would continue in circumstances where Multinet has concluded that it is unsustainable."[493]

The AER does not agree with Multinet that the AER's typical forecasting methodology is inappropriate in these circumstances.

Firstly, as Multinet faced strong incentives to undertake opex efficiently in 2008-12, Multinet's actual opex in the 2008-12 access arrangement period reveals the efficient amount of opex incurred during that time ('the revealed cost approach'). Multinet's historical costs (i.e. the base year) therefore provide a reliable method to forecasting efficient opex.

Secondly, as discussed in section 6.4.3, and below in sections 6.5.3 and 6.5.4 the AER has taken into account Multinet's forecast cost drivers, and, in forming its forecast, has made adjustments to Multinet's actual opex incurred in 2011 where it considers the changes satisfy the relevant NGR criteria. Therefore the AER does not agree with Multinet that a change in Multinet's circumstances require it to use a different methodology to a base year approach.

The AER also considers a base year approach (in combination with an opex efficiency carryover mechanism) would lead the best estimate of opex possible in the circumstances because it provides Multinet (and other regulated businesses) with effective incentives to become more efficient over time.

This approach ensures the effective operation of Multinet's existing opex incentive mechanism under its 2008–12 Access Arrangement as required under the transitional provisions of the NGR.[494] Moreover, promoting effective incentives satisfies both the National Gas Objective and s. 24(3) of the National Gas Law.[495]

With this approach, the incentives to operate efficiently work not by anticipating all cost changes in advance of the subsequent regulatory period, but by basing the forecast opex on actual costs previously incurred by the regulated business. A business is rewarded where

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493 Multinet, *Access arrangement information,* March 30, p. 63.
494 NGR, Schedule 1, Part 1, clause 2, clause 5(a)
495 NGL, ss. 23 and 24(3).

there are efficiency gains, and penalised where there are efficiency losses. This approach is applied across the regulated energy sector in Australia.

As discussed above in section 6.4.4 if the AER were to set Multinet's opex higher than it would under a base year approach it would change the rewards and penalties facing Multinet for achieving efficiency gains and losses in the 2013–17 access arrangement period relative to the 2008–12 access arrangement period.

By changing the relative rewards and penalties for efficiency gains, the AER would promote perverse incentives across the regulated energy sector. That is, if the AER used an opex forecast higher than a base year estimate, the AER would provide a signal to all regulated energy businesses that the AER is willing to increase regulated opex above historical opex under certain circumstances. It would provide an incentive to all regulated business contemplating a restructure to achieve losses at the end of a regulatory period, claim its current model is not sustainable in the event of such losses and then restructure to a higher cost business model. If the AER increased regulated opex each time a business incurred a loss in the base year, a regulated business could repeat the cycle each time its current business model had outlived its usefulness. This is not consistent with promoting economic efficiency across the regulated energy sector.[496]

The following sections sets out how the AER's base year estimate has been constructed. It follows the following structure.

- construction of base year estimate
- scope changes
- escalation of base year opex
- debt raising costs.

6.5.2 Construction of base year estimate

Choice of base year

The AER has formed its estimate using Multinet's actual costs incurred in 2011 as the base. AER's considers a base year of 2011 to be appropriate for the following reasons:

- As discussed above, Multinet's actual opex in the 2008-12 access arrangement period reveals the efficient amount of opex incurred during that time ('the revealed cost approach'). Multinet's historical costs therefore provide a reliable method to forecasting efficient opex.
- 2011 is the most recent year for which audited data is available.
- In the 2008–12 access arrangement period, Multinet was subject to an opex efficiency carryover mechanism (ECM). Under the ECM 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. As

[496] NGL, s. 23 and 24(3).

discussed in section 6.4.4 and in attachment 7 the AER considers that to preserve the continuity of the ECM an approach which bases forecast opex on actual opex incurred in 2011 is required. This ensures Multinet faces effective incentives in order to promote economic efficiency with respect to reference services it provides, and is otherwise consistent with the operation of the incentive mechanism as taken into account by the AER in deciding whether to approve Multinet's access arrangement proposal.[497]

In considering what base year estimate to apply, the AER has considered The EUCV's suggestion that the AER should apply 2010 as the base to apply a forecast.[498] The AER also considered Multinet's base year estimates.[499]

Multinet began to restructure to a new business model in 2011.[500] Therefore, the AER notes that Multinet's actual opex incurred in 2011 is inclusive of costs related to its business restructure and is one reason why costs incurred by Mulinet in 2011 are higher than 2010. However as described in attachment 7, Multinet has incurred a carryover penalty in 2011 in part because Multinet began to restructure in 2011. If the AER were to calculate the carryover penalty with actual opex inclusive of transition costs, and then use 2010 as the base year, or use 2011 without the transition costs, Multinet would effectively be penalised twice. Therefore, taking into account the efficiency carryover loss, the AER has retained the transition costs in the 2011 base year costs as it would be the best possible estimate of opex in the circumstances.[501] Using a base year of 2011 will best ensure symmetry with the AER's decision to carryover efficiency losses from the 2008–12 access arrangement period.

Adjustments to actual opex in 2011

The AER has made a number of adjustments to the opex incurred by Multinet in 2011 to estimate base year opex. The AER's decision regarding adjustments to Multinet's base year opex are set out in Table 6.10.

Table 6.10 AER base year adjustments ($million 2012)[502]

	AER draft decision
Actual opex in 2011	57.6
Less adjustments	–6.1
Base year opex	51.6

Source: AER analysis.

The reasons for making these adjustments are set out below.

497 NGR, clause 5.1(a) of Schedule 1.

498 Energy Users Coalition of Victoria, *Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals*, June 2012, p. 36.

499 Multinet, *Response to AER information request 10,* 20 June 2012.

500 Multinet's new business structure is forecast to be in place from 1 July 2013.

501 NGR, r. 74(2)(b).

502 The licence fee and UAFG adjustments are consistent with what was proposed by Multinet in its 20 June submission about how a base year methodology should be constructed by the AER.

Licence fees

The AER has removed ESC licence fees from its base year. Licence fees are recovered through the price control mechanism The AER considers Multinet would double recover this expenditure if these costs are included in a base year estimate. As such the AER considers this adjustment complies with rr. 74(2) and 91 of the NGR.

Unaccounted for Gas (UAFG)

Unaccounted for gas (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.

Multinet's 2008–12 access arrangement includes an incentive mechanism in relation to UAFG, which encourages Multinet to reduce UAFG below a pre-determined benchmark set by the ESC in accordance with r. 317 of the NGR. Rule 317 is a provision in Part 19 of the NGR. Part 19 contains rules applicable to the operation of a declared distribution system. The Victorian gas distribution system is a declared distribution system. Accordingly, r. 317 regulates unaccounted for gas in that system.

Under r. 317 of the NGR AEMO must make procedures that require AEMO to calculate gas unaccounted for in a declared distribution system and to determine payments to be made between a Retailer and a Distributor for that gas. Under AEMO's Procedures,[503] AEMO calculates unaccounted for gas and such payments by reference to benchmarks set by the ESC. The UAFG benchmarks set by the ESC are contained in schedule 1 of the Victorian Gas Distribution System Code.

Clause 4.10 of Multinet's terms and conditions[504] states that the parties acknowledge that AEMO will, from time to time, calculate the amounts (if any) payable between parties for UAFG. Multinet submits that the UAFG benchmarks set by the ESC were not set appropriately (they were too low).[505] It considers the actual UAFG data for 2010 is the most appropriate benchmark for the 2013-17 access arrangement period.[506]

The Victorian Gas Distribution System Code only provides for the setting of UAFG benchmarks by the ESC up to 2012.[507] There is no provision for benchmarks to be set beyond this date by the ESC. There is no statutory power permitting the AER to set benchmarks.

In summary, UAFG is regulated under Part 19 of the NGR by AEMO and the current AEMO Procedures refer only to benchmarks set under the Gas Distribution System Code. The AER cannot set the benchmarks. As a result, the AER does not accept Multinet's proposal.

The AER further notes that Multinet's 2011 actual opex includes $2.6m ($2012) in UAFG payments made under AEMO's r. 317 Procedure.[508] This actual, UAFG payment in 2011was

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503 AEMO Wholesale Market Distribution UAFG Procedures (Victoria), Version No. 2.

504 Multinet, *Access arrangement proposal: Part C – Terms and conditions*, 30 March 2012.

505 Multinet *Access arrangement information*, 30 March 2012, p. 191.

506 Multinet *Access arrangement information*, 30 March 2012, p. 192.

507 Victorian Gas Distribution System Code, Schedule 1, Part C.

calculated with reference to the ESC benchmarks. The AER considers the Procedures under r. 317 regulate unaccounted for gas and unaccounted for gas payments. As such, any payments made under that mechanism should not be included in Multinet's base year opex. The AER notes that this is consistent with Multinet's 'what if' alternative forecasting approach, which Multinet provided to support its bottom up forcast.[509]

Costs relating to EPG fee

Energy Partnership (Gas) Pty Ltd (EPG) is a subsidiary of Multinet Group Holdings (MGH), which is the company holding equity interest in Multinet.[510] MGH is owned by the DUET Group, a publicly listed company, which is managed by several entities each of which is jointly owned by AMP Capital Holdings Ltd (AMPCH) and Macquarie Group Ltd. Multinet's actual costs incurred in 2011 and reported in its regulatory accounts included a fee it paid to EPG for management and corporate services. The AER understands the fee is paid to DUET to cover expenses it incurs for corporate regulatory requirements related to gas pipeline ownership and for fees the DUET Group pays to its managers in connection with services provided to Multinet.

In support of its forecast for the 2013–17 access arrangement period, Multinet provided the following information in relation to the EPG fee:

- a 2007 report from KPMG that considered the costs and services underlying the EPG fee, the relevance of those costs to Multinet's services and whether those costs would fulfil the criteria for recovery by a Reference Tariff under the Gas Code[511]
- a letter from DUET to Multinet outlining the cost incurred by the DUET Group apportioned to Multinet for the 2010 regulatory accounts.[512]
- a letter about the results of audit testing of the cost components outlined in the letter from DUET.[513] Of the evidence provided by Multinet about audit testing of the costs that had been allocated to Multinet in the 2010 regulatory accounts, only some of these costs were verified as an actual cost that should be allocated to Multinet.

The AER's draft decision is to only allow some of the costs related to the EPG fee in its forecast of base year opex. The AER considers that only part of the EPG fee paid by Multinet in 2011 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.[514]

The AER generally considers that base year costs, where an incentive mechanism operates, are likely to be a good indicator of the efficient costs to be incurred in future. However, when examining fees paid as part of outsourced arrangements the AER typically undertakes a more

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509 Multinet, *response to information request 10*, 20 June 2012. p.16.

510 Multinet *Access arrangement information*, 30 March 2012, p. 33.

511 KPMG, *Examimation of an annual fee for service payable to Energy Partnership (Gas) Pty Ltd report,* October 2007.

512 David Bartholomew (DUET Group), *Letter to David Strang (Multinet) - Multinet - DUET cost information for the 2010 Multinet regulatory accounts*, 17 May 2011.

513 Kester Brown (Ernst and Young), *Letter to Andrew Schille (Multinet),* 28 May 2012.

514 NGR, r. 91(1).

detailed investigation of whether the costs are presumed to be prudent and efficient. This is because the AER cannot presume the costs incurred by Multinet reflect prudent and efficient costs where fees are paid to parties that are not at arms length, and the services were not procured through a competitive process.

The payment to EPG is a payment to Multinet's owners (the DUET Group). Therefore the payment is to a party which is not at arms length to Multinet. For this reason, the AER cannot presume that EPG included in Multinet's actual costs in 2011 is prudent and efficient. The AER has further examined this cost to assess whether it is prudent and efficient.

In reviewing all information submitted by Multinet in support of the EPG fee, the AER is satisfied that Multinet's owners would incur some costs related to corporate compliance and governance and management. The AER considers the amount verified by audit to be a reasonable estimate of the efficient costs that were incurred. However, as Multinet's auditor could only verify part of the amount that the DUET Group identified was included in Multinet's regulatory accounts in 2010 as costs that should be allocated to Multinet, the AER determines this amount (with appropriate adjustments for inflation) should be the amount included in base year opex. This is consistent with the position the AER adopted for similar costs incurred by United Energy for the Victorian electricity distribution determination.[515]

Expected opex in 2012

The AER considers that the appropriate manner to escalate opex costs from the 2011 base year to 2012 is to use base year opex for 2011 plus the forecast change in operating expenditure between 2011 and 2012 approved in the 2008–12 access arrangement. The AER considers this ensures the ECM operates as intended. The AER notes clause 6.4(b)(1) of Multinet's 2008–12 access arrangement, which requires for the purposes of the ECM that:

> For operating expenditure, it will be assumed that the Service Provider does not achieve more than the forecast productivity gain between the penultimate and last years of the Third Access Arrangement Period. As a result, if the Service Provider makes an efficiency gain in the last year of the Third Access Arrangement Period, there would be no carryover in respect of that year. However, the operating expenditure benchmark for the Fourth Access Arrangement Period will then be higher than otherwise for the Fourth Access Arrangement Period by the amount of the efficiency gain. This would provide the Service Provider with precisely the same reward had the expenditure level in the last year been known.[516]

Adopting actual opex for 2011 plus the forecast change in operating expenditure between 2011 and 2012 approved in the 2008–12 access arrangement ensures that any efficiency gain made in 2012 is not factored into the carryover consistent with the operation of the incentive mechanism.[517] The AER considers that this approach ensures that the forecast opex complies with rr. 74(2) and 91(1) and the transitional provisions of the NGR regarding the operation of an incentive mechanism.[518]

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515 AER, *Victorian electricity distribution network service providers - distribution determination 2011–2015*, p. 272.
516 Multinet, *2008–12 access arrangement,* clause 6.4(b)(1).
517 NGR, Schedule 1, Clause 5.1(a).
518 NGR, Schedule 1, Clause 5.1(a).

6.5.3 Scope changes

As discussed in section 6.4.3, the AER does not consider that some of Multinet's scope changes which it identified as cost drivers comply with either r.74 or 91 of the NGR.

A summary of the impact AER's draft decision on scope changes is in Table 6.11 below.

Table 6.11 Multinet's forecast and AER assessment of cost drivers ($million 2012)

	Multinet forecast	AER assessment
Network development	10.0	–
Energy Efficiency Opportunities	1.5	0.5
Carbon tax administration	1.5	0.5
NECF	8.0	–
Cyclical GAAR costs	–0.7	–0.7
Increase in maintenance costs	10.9	–
Total	**33.7**	**0.3**

Source: Multinet, *Response to AER information request 10,* 20 June 2012, AER analysis.

The AER's reasoning for its decision in relation to scope changes is discussed in detail below.

Network Development

Multinet proposed that an important scope change for the forthcoming access arrangement period relates to the introduction of a network development plan.[519] Multinet stated that it plans to carry out research and development focusing on:

- Conduct feasibility studies on the use of existing electricity AMI infrastructure to enable the integrated reading of gas and electric meters.
- Conducting feasibility and cost/benefit studies relating to the design of new time-of-use tariffs, and the scope for these to encourage the uptake of new appliance technologies.
- Developing a detailed customer data warehouse, and use this to assist retailers and appliance manufacturers to target their marketing of gas appliances to residential consumers who do not presently use gas for space and water heating.[520]

In response to an AER information request Multinet provided additional information supporting the need for this program and a more detailed estimate of the costs which will be incurred.[521]

The AER considers that Multinet's forecast network development expenditure would not be incurred by a prudent and efficient service provider, contrary to the requirements of r. 91 of the NGR.

519 Multinet *Access arrangement information*, 30 March 2012, p. 78.
520 Multinet *Access arrangement information*, 30 March 2012, p. 78.
521 Multinet, *Response to AER information request 24*, 5 July 2012.

Multinet has not yet undertaken preliminary steps to implement the projects under its network development plan nor has it received Board approval for this expenditure.[522] Multinet has indicated it will only undertake these network development activities where there is a net economic benefit to customers. However, Multinet has not yet examined whether these activities are expected to have a net economic benefit. Multinet has stated that:

> Multinet has not carried out any business cases for this expenditure because the benefits are not easily quantifiable.[523]
>
> Multinet has not undertaken board approval documentation yet as detailed cost benefit are still to be completed. In approving the submission to the AER the Board were made aware of this item however will not commit major funding to the program until such time as an adequate allowance has been made in the 2013 to 2017 benchmarks.[524]
>
> Ultimately customers funding this investment will get a return through operating costs being distributed over a larger customer base with a higher total demand, resulting in lower Distribution tariffs. It is proposed that Network Development activities will only be progressed where they have net economic returns for customers, have a coincident benefit for the Distributor, and have net greenhouse gas reduction benefits.[525]

The AER accepts that some network development expenditure may be prudent and efficient, this would occur where the projects are expected to be net present value positive and the expected long term benefit outweighs the shorter term costs. However, Multinet has not provided evidence that the activities it proposes to undertake will provide a long term benefit to Multinet or its customers. Further, Multinet stated that the benefits of this expenditure are not easily quantifiable.[526] The AER does not consider that a prudent service provider acting efficiently, in accordance with accepted good industry practice would undertake this network development expenditure unless it can demonstrate that it is net present value positive and will deliver a long term benefit to its customers.

The AER notes that Multinet's proposed step change in network development expenditure is discretionary in nature. The AER also notes that the efficiency sharing mechanism provides a continuous incentive to reduce opex to a prudent and efficient level. The AER considers that due to the discretionary nature of this expenditure and the operation of the ECM, that Multinet's expenditure on network development in the 2008–12 access arrangement period is prudent and efficient. As such, without being provided detailed information on which to reach an alternative view, the AER is not satisfied that Multinet's proposed increase for network development expenditure is prudent and efficient.

Energy Efficiency Opportunities

Multinet forecast an increase in costs relating to the Australian Government's decision (announced in July 2011) to extend the Energy Efficiency Opportunities (EEO) program to include energy transmission and distribution businesses.[527]

The EEO Amendment Regulation 2012 has been made by the Federal Executive Council, The EEO regulation amendments enable participation of network businesses from July 2013.

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522 Multinet, *Response to AER information request 24*, 5 July 2012.
523 Multinet, *Response to AER information request 24*, 5 July 2012, pp. 3–5.
524 Multinet, *Response to AER information request 24*, 5 July 2012, pp. 3–5.
525 Multinet, *Response to AER information request 24*, 5 July 2012, pp. 4–5.
526 Multinet, *Response to AER information request 24*, 5 July 2012, pp. 3–5.
527 Multinet, *Access arrangement information*, 30 March 2012, p. 75.

As such it is anticipated that the EEO program will commence on 1 July 2013. However, the exact form of the program will be determined by further consultation with the industry in 2012–13.

The majority of Multinet's proposed expenditure relates to employment of an additional 1 FTE at $150,000 per annum to comply with Multinet's annual compliance reporting under the EEO program.[528] Multinet also proposed $38,000 per annum for collation of the report and internal signoff, $210,000 for the completion of an assessment plan and $150,000 for the development of a five year plan.[529]

The AER notes that a regulatory impact statement for gas distributors does not yet appear to have been prepared. However, a regulatory impact statement for electricity generators, prepared by Access Economics, has been published by the Department of Finance. The AER considers that this regulatory impact statement should be broadly indicative of the compliance costs which Multinet will face from this program. The regulatory impact statement report found that: [530]

> Compliance costs for the EEO program extension have been based on data that has been voluntarily reported under the existing EEO program, at an average cost of $73,000.

With reference to the EEO amendments and the regulatory impact on electricity generators, the AER considers that much of the work proposed by Multinet would be intermittent in nature. Whilst there may be periods where one or more full time staff are required to work on administering this project, it is unlikely that this program will require this level of staffing on an ongoing basis throughout the regulatory period. The AER considers that the five year plan could also be managed in a similar manner. Additionally, the AER considers that the majority of this work could be undertaken by a FTE earning less than $150,000 per annum.

The AER considers that the expenditure proposed by Multinet does not comply with rr. 74(2) and 91 of the NGR as it has not been arrived at on a reasonable basis, does not provide the best estimate possible in the circumstances and does not reflect operating expenditure which would be incurred by a prudent service provider acting efficiently. The AER considers that Multinet's staffing allocation is in excess of that required to fulfil this role.

The AER considered the quantum of costs proposed by Multinet, including the legal and audit costs it considers it will incur. The AER has determined that $100,000 per annum complies with rr. 74(2) and 91 of the NGR and reflects a prudent and efficient level of expenditure by a business in Multinet's circumstances.

Carbon tax administration

Multinet is now liable to purchase carbon credits to cover the fugitive emissions, calculated under the National Greenhouse Emissions Reporting Scheme framework. Multinet submitted that it would face additional costs associated with the administration of the carbon tax.[531]

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528 Multinet, *Response to AER information request 24*, 5 July 2012.

529 Multinet, *Response to AER information request 24*, 5 July 2012.

530 Access Economics, *Extension of the Energy Efficiency Opportunities program to electricity generators: implementation Regulation Impact Statement*, 14 February 2011.

531 Multinet, *Access arrangement information*, 30 March 2012, p. 22.

Multinet forecast these additional costs to amount to $300,000 per annum. The AER accepts that administering the carbon scheme represents a step change in Multinet's operating expenditure as this expenditure is a result of a legislative change and was not incurred in the 2011 base year.

Multinet provided limited information on the manner in which Multinet calculated its additional costs for administering the carbon scheme. However, in response to an information request Multinet stated that:

> These costs are all the same that were included in the cost pass through application and should either be included in the cost pass through mechanism or in the opex forecast. It is not clear whether the pass through mechanism: continues, is applied for every year, or whether the costs should be include in the opex costs[532]

The AER previously approved a pass through application in respect to carbon costs for Multinet for the period 1 July 2012 to 31 December 2012. In this pass through application the AER approved total additional operating costs of $387,000. Multinet advised that the costs in its pass through application relate to:

- legal costs
- registration and set up costs
- accounting and taxation advice costs
- reviewing the appropriate reporting methodology
- establishing procurement procedures and trading practices for carbon units
- documenting, reporting, purchasing, delegation and data collation procedures.[533]

The AER notes that many of the costs approved in the AER's decision on Multinet's cost pass through application specifically related to the initial cost of setting up the administration of the carbon scheme.

The AER considers that Multinet's step change for carbon administration costs should only relate to the ongoing costs of administering the scheme and these set-up costs should have been incurred in the period covered by Multinet's approved pass through (1 July 2012 to 31 December 2012). As such, the AER considers that Multinet’s forecast costs do not comply with r. 74(2) of the NGR as they have not been arrived at on a reasonable basis and do not provide the best forecast possible in the circumstances. Given that Multinet's proposal includes costs which should already have been incurred and recovered, the AER considers that the proposed costs are higher than would be incurred by a prudent and efficient service provider.

The AER considers Multinet's ongoing costs may include some staffing and an allowance for annual legal and auditing fees. However, Multinet has not provided a breakdown which allows the AER to separate the ongoing costs from the one-off set-up costs. As such, the AER has considered information provided by SP AusNet to determine the efficient costs which are likely to be incurred by Multinet. In examining information provided by SP AusNet, the AER

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532 Multinet, *Response to AER information request 24*, 5 July 2012, p. 9.

533 AER, *Decision - Multinet change in taxes event pass through application decision*, March 2012.

concluded that 0.5 FTE staff and reasonable audit costs are prudent and efficient. Accordingly, the AER considers that $108,750 per annum complies with rr. 74 and 91 of the NGR and is the cost a prudent and efficient service provider would incur in administering this scheme.

Compliance reporting costs and new connections function (NECF)

Multinet forecast an increase in opex for new compliance reporting and connections functions following the introduction of the National Energy Customer Framework (NECF). The NECF is a proposed new regulatory framework that seeks to harmonise the ways customers interact with retailers and distributors across the gas and electricity sectors. It is anticipated that the new framework will alter some of the obligations of Multinet and Multinet submitted that this will result in an increase in its opex over the 2013–17 access arrangement period.

The AER considers that Multinet's proposed step change in relation to the introduction of the NECF does not reflect expenditure which would be incurred by a prudent and efficient service provider. The AER has reached this conclusion on the basis of a decision, announced on 13 June 2012, by the Victorian Government to delay the introduction of the NECF in Victoria.[534] The Victorian Government also announced it would explore opportunities to align state retail and consumer protection arrangements with the national framework where it does not result in lower standards.[535]

At the time Multinet submitted its regulatory proposal the NECF was due to commence in Victoria on 1 July 2012. The calculation of the additional costs put forward in Multinet's regulatory 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 Multinet 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 Multinet's access arrangement. As discussed in attachment 11 this NECF specific pass through is not subject to a materiality clause.

Cyclical GAAR costs

The AER considers that an adjustment to Multinet’s opex allowance is required to account for the cyclical nature of Multinet’s costs for preparing its access arrangement. Multinet indicated that such an adjustment would be required to ensure that the cost projection is consistent with the cyclical pattern of expenditure associated with participating in a GAAR over the five year

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534 Minister for Energy and Resources, *Media release - Victorian Government defers National Energy Retail Law to safeguard consumer protections*, 13 June 2012, retrieved from http://www.premier.vic.gov.au/media-centre/media-releases/4155-victorian-government-defers-national-energy-retail-law-to-safeguard-consumer-protections.html.

535 Minister for Energy and Resources, *Media release - Victorian Government defers National Energy Retail Law to safeguard consumer protections*, 13 June 2012, retrieved from http://www.premier.vic.gov.au/media-centre/media-releases/4155-victorian-government-defers-national-energy-retail-law-to-safeguard-consumer-protections.html.

regulatory period.[536] The AER notes that Multinet has an amount of expenditure involved in preparing its access arrangement included in the 2011 base year. This adjustment ensures that Multinet receives its anticipated costs over the access arrangement period and in the years the costs are expected to be incurred. As such the AER considers this adjustment reflects the best estimate possible in the circumstances and complies with r. 74(2) of the NGR.

Increase in maintenance costs

Multinet stated that it expects the number of meters to be refurbished to increase significantly and that this reflects the meter age, population mix and meter refurbishment cycle.[537] Multinet further submitted that these increased activities would lead to increased maintenance costs over the forthcoming access arrangement period compared to the costs incurred in 2010.[538]

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.

Multinet splits its meter replacement program between capex and opex components. The opex component relates to removing the meters from the field; refurbishing the meters; and testing meters under AS/NZS 4944:2006.

As discussed in attachment 3, the AER had difficulty reconciling Multinet's forecasts of capex and opex on its meter replacement program. Multinet acknowledged some inconsistencies in its submissions relating to meters to be removed for repair or replacement.[539] The AER requested Multinet provide an updated capex and opex forecast to account for the correction of these inconsistencies and Multinet provided this on 7 August 2012.[540] The AER considered that this model contained errors and requested Multinet provide a corrected model. Multinet provided a subsequent spreadsheet 'Meter's finalised.xlsx' on 8 August 2012.

In providing this subsequent spreadsheet due to internal resourcing issues Multinet adjusted the figures on a pro rata basis.[541] As discussed in attachment 3, the AER is unable to determine that this simple pro rata adjustment accurately accounts for the complexities of Multinet’s underlying model. Accordingly, the AER does not consider that Multinet has forecast its meter opex on a reasonable basis consistent with rule 74(2)(a) of the NGR.

Multinet provided details of the historical number of meter replacements which indicated that Multinet replaced on average 37,790 meters in the 2008–12 period.[542] Multinet's updated forecast indicated that on average 37,423 meters will be replaced during the 2013–17 access

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536 Multinet, *Response to AER information request* 10, 20 June 2012.
537 Multinet, *Response to AER information request* 10, 20 June 2012.
538 Multinet, *Response to AER information request* 10, 20 June 2012.
539 Multinet, *Response to AER information request* 35, 20 July 2012.
540 Multinet, *FW: Emailing: AER meters updated v2*, 7 August 2012.
541 Multinet, *Response to AER information request* 35 and 44, 8 August 2012.
542 Multinet, *Response to AER information request* 5, 14 June 2012.

arrangement period. Accordingly, the AER does not consider that there is a substantial step-up in the number of meter replacements Multinet will perform in the 2013–17 access arrangement period.

Additionally the number of meter refurbishments is also consistent between the 2008–12 access arrangement period and the 2013–17 access arrangement period. Multinet refurbished on average 29,804 meters in the 2008–12 access arrangement period.[543] Multinet's updated forecast indicated that on average 26,270 meters will be refurbished during the 2013–17 access arrangement period. Finally, Multinet indicated that the long term average number of meters it refurbishes is 30,000.[544]

The AER considers that the information provided by Multinet does not indicate that Multinet will experience a large step-up in the number of meters it will refurbish over the 2013–17 access arrangement period. Accordingly the AER considers that Multinet's proposed step change does not comply with rr. 74(2) and 91 of the NGR.

In summary, Multinet has not provided a robust forecast consistent with the requirements of r 74(2) and that Multinet's historical data does not support the claimed increase in meter refurbishments in the 2013–17 access arrangement period. The AER considers that the actual costs incurred in 2011 provide a reasonable basis for forecasting opex maintenance costs and will provide the best estimate possible in the circumstances that reflects prudent and efficient expenditure for the 2013–17 access arrangement period.

6.5.4 Escalation of base year opex

Labour cost escalation

The AER is not satisfied Multinet's forecast impact of real labour cost escalators have been arrived at on a reasonable basis or represents the best possible forecast of labour over the 2013–17 access arrangement period such that they reflect prudent and expenditure.

Table 6.12 outlines the impact of the AER's decision. Appendix C contains the AER's more detailed consideration of the forecast impact real cost escalators proposed by Multinet.

Table 6.12 Impact of labour cost escalation ($million, 2012)

	2013	2014	2015	2016	2017	Total
Multinet forecast	1.4	2.8	4.2	5.7	7.2	21.3
AER draft decision	0.5	0.9	1.4	1.8	2.3	6.8
Difference	-0.9	-1.9	-2.8	-3.9	-4.9	-14.5

Source: AER analysis.

543 AER analysis of 'Multinet metersample test results info request 5.xlsx',14 June 2012.

544 Multinet, *Response to AER information request 35*, 20 July 2012

Output growth

The AER considers network growth should deliver economics of scale. It is not satisfied Multinet's scale factor for customer growth provides a reasonable basis to forecast opex.[545] Nor does it provide the best possible forecast of opex in the circumstances.[546]

In Multinet's base year estimate, it escalated base opex by the forecast increase in customer numbers adjusted for economies of scale. It assumed a 70 per cent scale factor for customer growth.[547] Multinet stated the 70 per cent scaling factor was 'intended to be a broad but reasonable estimate, rather than a precise calculation'.[548] Multinet did not provide any further supporting evidence to suggest that the appropriate growth scaling factor is 70 per cent in response to the AER's information request for clarification on how Multinet's growth scaling factor was determined.

As Multinet has not provided any evidence to support its 70 per cent scale factor assumption, the AER is not satisfied that a 70 per cent scale factor for customer growth provides a reasonable basis for forecasting output growth.[549] An alternative methodology is required.[550] A methodology based on actual data about the historical impact of customer growth on opex provides a more reasonable estimate of what the impact of output growth may be in the 2013-17 access arrangement period.

The AER considers cost elasticities estimated by Economic Insights provide a reasonable basis for forecasting the impact of output growth on opex.[551]

Economic Insights forecast opex partial productivity based on the opex of nine Australian and two New Zealand gas distribution businesses from 1999 onward.[552] As part of this study Economic Insights estimated partial factor productivity and growth rates for Multinet and SP AusNet using an econometric approach. Multinet's forecast growth and productivity were directly compared to SP AusNet's.[553] Economic Insights estimated two models, a single output model with customer numbers as the output and a two output model using customer numbers and energy throughput.[554] Both models use an operating cost function that focuses on opex as the dependent variable. The models assume capital is fixed and the exogenous variables are opex, input prices, fixed input quantities, operating environment conditions and technological change.[555]

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545 NGR, r. 74(2)(a).

546 NGR, r. 74(2)(b).

547 Multinet, *Response to AER information request 10*, 20 June 2012, p. 22.

548 Multinet, *Response to AER information request 42,* 7 August 2012.

549 NGR, r. 74(2)(a).

550 NGR, r. 74(2)(a).

551 NGR, r. 74(2)(b).

552 Economic Insights, *Econometric estimates of the Victorian gas distribution businesses' efficiency and future productivity growth*, 28 March 2012, pp. 4–12.

553 Economic Insights, *Econometric estimates of the Victorian gas distribution businesses' efficiency and future productivity growth*, 28 March 2012, p. 20. The Economic Insights reports was incorporated by SP AusNet into the partial factor productivity forecast in its opex forecast and provided in its access arrangement proposal.[553]

554 Economic Insights, *Econometric estimates of the Victorian gas distribution businesses' efficiency and future productivity growth*, 28 March 2012, pp. 19–22.

555 Economic Insights, *SP AusNet's Gas Distribution Business Real Opex Rate of Change*, 30 March 2012, p. 11.

The AER considers the average of the two customer elasticity coefficients estimated by Economic Insights in Table 6.13 (0.38) provides a good measure of the output growth scale adjustment and is a forecast arrived at on a reasonable basis. On this basis, the AER considers the scale factor for growth of 38 per cent where a one per cent increase in customer numbers results in a 0.38 per cent increase in total opex costs is the best possible forecast of opex in the circumstances.[556]

As illustrated in Table 6.13, the AER notes that applying the average customer elasticity without including energy and customer density variables provides an upward bias to Multinet's opex growth scale factor. For instance a 1 per cent increase in customer density results in a 0.46 per cent decrease in opex. The AER has adopted a conservative approach to estimating output growth by not explicitly taking into account Multinet's customer density, energy throughput and technological change.

Table 6.13 Economic Insights model elasticities

Variable	Model 1	Model 2
Energy	0.234	N/A
Customers	0.288	0.466
Customer density	N/A	–0.462
Capital	0.378	0.383
Technology	–0.006	–0.010

Source: Economic Insights, *Econometric estimates of the Victorian gas distribution businesses' efficiency and future productivity growth*, 28 March 2012.

Table 6.14 Impact of network growth ($million, 2012)

	2013	2014	2015	2016	2017	Total
Multinet forecast	0.6	0.9	1.2	1.5	1.9	6.1
AER draft decision	0.2	0.3	0.5	0.7	0.8	2.5
Difference	–0.4	–0.6	–0.7	–0.9	–1.0	–3.6

Source: AER analysis.

6.5.5 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.

[556] NGR, r. 74(2)(b).

The AER's approach to debt raising costs is based on a report from ACG commissioned by the ACCC in 2004.[557] 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 Multinet with a reasonable opportunity to recover at least its efficient transaction costs in raising finance.[558]

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.

Multinet's proposal did not mention debt raising costs although an allowance of 9.2 bppa or $3m (real, 2012) over the access arrangement period was included in its proposed PTRM. The debt raising cost bppa, however, appears to be based on the AER's established debt raising cost method because the value proposed by Multinet is the same value as that adopted by the AER for United Energy in the 2011–15 electricity distribution determination. The AER's established method provides network service providers with a reasonable opportunity to recover at least the efficient costs in providing reference services.[559] 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.[560] Therefore, the AER will apply this method to Multinet.

Benchmark debt raising costs

Although Multinet appears to have applied the AER's established debt raising cost method, the AER has updated the benchmark allowance for Multinet's updated RAB value. The AER's benchmark allowance, provides for three standard sized bond issues. The unit costs and the benchmark debt raising cost are shown in Table 6.15. As this draft determination is based on

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557 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.

558 NGL, s.24.

559 NGL, s.24.

560 NGR, r. 91.

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 6.15 AER's draft decision on debt raising costs for Multinet based on a nominal WACC of 7.16 per cent

Value	Explanation	1 issue	2 issues	3 issues
Total amount raised	Multiples of median MTN ($250m)	$250m	$500m	$750m
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	0.73
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	9.3

Source: AER analysis

This has resulted in the debt raising costs for Multinet outlined below in Table 6.16.

Table 6.16 Debt raising costs for Multinet ($million, 2012)

	2013	2014	2015	2016	2017
Debt raising costs	0.55	0.56	0.55	0.55	0.54

Source: AER analysis

6.6 Revisions

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

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 6.1.

7 Incentive mechanisms

Incentive mechanisms are an important tool to provide service providers continuous 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 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 years corresponds to the length of the access arrangement period.

This chapter presents the AER's assessment of Multinet's proposed:

- carryovers from the operation of the incentive mechanisms in the 2008–12 access arrangement period
- 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 Multinet's proposal to disregard the negative carryover accrued in the 2008–12 access arrangement period. The NGR transitional rules require that the AER ensure the revenue calculations for the 2013–17 access arrangement period properly reflect increments or decrements resulting from the operation of the incentive mechanism.[561] The AER has calculated that Multinet accrued a total carryover of –$16.7 million ($2012) during the 2008–12 access arrangement period (Table 7.1).

Table 7.1 AER draft decision on Multinet carryover from the 2008–12 access arrangement period ($million, 2012)

	2013	2014	2015	2016	2017	Total
Multinet proposed	–	–	–	–	–	–
AER draft decision	–3.8	–2.9	–5.0	–4.9	–	–16.7
Difference	–3.8	–2.9	–5.0	–4.9	–	–16.7

Source: Multinet, *Access arrangement information*, 30 March 2012, p. 176; AER analysis.

7.1.2 Proposed incentive mechanism for the 2013–17 access arrangement period

The AER does not approve Multinet's proposed incentive mechanisms. It considers amendments are required to make the opex incentive mechanism consistent with r. 98 of the

[561] NGR, schedule 1, clause 5(1)(a).

NGR. Rule 98 of the NGR includes that the mechanism be consistent with the revenue and pricing principles (RPP).[562]

The AER considers Multinet's proposed capex incentive mechanism is inconsistent with r. 98 of the NGR and the revenue and pricing principles. The AER considers the inclusion of any alternative capex incentive mechanism would be inconsistent with the requirements of the NGR. Therefore the AER requires Multinet remove the capex incentive mechanism from the proposed access arrangement.

7.2 Multinet proposal

7.2.1 Carryovers accrued in the 2008–12 access arrangement period

Multinet calculated a total carryover of –$61.4 million from the application of the incentive mechanism during the 2008–12 access arrangement period (Table 7.2).

Table 7.2 Multinet calculated carryover from the 2008–12 access arrangement period ($million, 2012)

	2013	2014	2015	2016	2017	Total
Opex efficiency carryover	–11.3	–7.2	–8.4	–8.4	–	–35.3
Capex efficiency carryover	–5.3	–4.8	–6.3	–6.1	–3.6	–26.1
Total	**–16.5**	**–12.1**	**–14.7**	**–14.5**	**–3.6**	**–61.4**

Source: Multinet, *Access arrangement information*, 30 March 2012, p. 176; AER analysis.

Multinet proposed the negative carryover amounts incurred in the 2008–12 access arrangement period not be applied because it considered the benchmarks were unattainable.[563] It also noted its operating expenditure performance was closely aligned with United Energy's circumstances. It considered the same anomalies the AER identified for United Energy in the 2011–15 Victorian electricity distribution price determination apply to Multinet. Therefore, it considered the negative opex carryover should not be applied.[564]

7.2.2 Proposed incentive mechanism for the 2013–17 access arrangement period

Multinet proposed an efficiency carryover mechanism substantially similar to the scheme in its current access arrangement that rewards efficiency improvements in operating and capital expenditure. The proposed incentive mechanism would allow Multinet to retain efficiency improvements for five years, irrespective of the year in which the saving is achieved.[565]

Multinet proposed efficiency gains (or losses) in any year are to be calculated as:[566]

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562 NGR, r. 98(3); the revenue and pricing principles are set out in s 24 of the NGL.
563 Multinet, *Access arrangement information*, 30 March 2012, pp. 176–177.
564 Multinet, *Access arrangement information*, 30 March 2012, p. 179.
565 Multinet, *Access arrangement information*, 30 March 2012, p. 222.
566 Multinet, *Access arrangement information*, 30 March 2012, p. 223–224.

$$\text{Capex efficiency gain} = \text{WACC} \times (\text{Capex}_i^{\text{Forecast}} - \text{Capex}_i^{\text{Actual}})$$

where:

WACC is the pre-tax WACC applying to SP AusNet

$$\text{Opex efficiency gain} = \text{Underspending}_i - \text{Underspending}_{i-1}$$

where:

$$\text{Underspending}_i = \text{Opex}_i^{\text{Forecast}} - \text{Opex}_i^{\text{Actual}}$$

Multinet proposed the following benchmark adjustments:

(A) the carryover of cost-related efficiency gains will be calculated in a manner that takes account of any change in the scope of the activities which form the basis of the determination of the original benchmarks. The Service Provider will provide information in relation to any change in scope, to be assessed by the Regulator, as part of the Access Arrangement Information submitted for the Fifth Access Arrangement Period. This information will, without limitation, quantify and substantiate the impact of the scope changes on the original benchmarks.

(B) 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.

(C) the carryover in respect of cost-related efficiency gains will be calculated in a manner that takes account of any adjustment to the original benchmark to reflect any difference between the capital replacement works assumed in Reference Tariffs for the Fourth Access Arrangement Period and the works actually undertaken in the Fourth Access Arrangement Period.[567]

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 mechanism[568]

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567 Multinet, *National Gas Law Access Arrangement by Multinet Gas (DB No. 1) Pty Ltd and Multinet Gas (DB No. 2) Pty Ltd trading as Multinet Gas Distribution Partnership for the Distribution System ("Multinet") Part B – Reference Tariffs and Reference Tariff Policy*, 30 March 2012, pp. 19–20.

568 Transitional provision Schedule 1, clause 5(1)(a) of the NGR requires the AER to ensure revenue calculations made for the access arrangement period properly reflect the operation of any incentive mechanism approved

- decide whether the 2013–17 access arrangement includes one or more incentive mechanisms to encourage efficiency in the provision of services by Multinet.[569]

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.

In determining whether the AER should require an incentive mechanism to be included in the 2013–17 access arrangements, the AER considered whether:

- Multinet's proposed incentive mechanisms for the next access arrangement period encourage efficiency in the provision of reference services[570]
- the parameters of the proposed schemes are appropriate[571]
- the mechanisms are consistent with the RPP.[572]

7.4 Reasons for decision

7.4.1 Carryover from the 2008–12 access arrangement period

The mechanism for carrying over efficiency gains is set out in clause 6.4 of Multinet's 2008–12 access arrangement. The amount to be carried over is the total of the efficiency gains or losses in relation to capex and opex incurred by Multinet during the 2008–12 access arrangement period, carried over for five years.

Clause 6.4(b)(3)(B) of the access arrangement provides that 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 approving the access arrangement provides further guidance on how this should be applied for opex:[573]

> 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

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under section 8.44 of the Gas Code in an earlier access arrangement period ; Schedule 1, clause 2 further provides that full effect is to be given to such arrangements under the NGR.

569 NGR, r. 98.

570 NGR, r. 98(1), NGL, s. 24(3).

571 This is to ensure the proposed incentive mechanism provides effective incentives to encourage efficiency in the provision of reference services consistent with NGR, r. 98(1) and the RPP (NGL s. 24).

572 NGR, r. 98.

573 ESC, *Gas access arrangement review 2008–2012: Final decision*, 7 March 2008, pp. 584–585.

> 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.

Multinet's access arrangement provides that the capex efficiency gain/loss should be calculated as follows:[574]

> For capital expenditure, it would be assumed that the actual expenditure in the last year of the Third Access Arrangement Period was equal to the forecast for that year. As a result, if the Service Provider makes an efficiency gain in the last year of the Third Access Arrangement Period, there would be no carryover in respect of that year. However, the regulatory asset base (and thus the return on assets) would be higher than otherwise over the next period. This would imply that the 'return on assets' included in the revenue benchmarks would be higher, and provide the Service Provider with precisely the same reward as the carryover had the expenditure level in the last year been known. At the following review, the regulatory asset base would be adjusted to take account of the difference between the forecast and actual capital expenditure for the last year of the Second Access Arrangement Period.

Contrary to these provisions in Multinet's access arrangement, Multinet did not correctly adjust the capex benchmarks to reflect actual volumes in its access arrangement proposal. It also calculated the capex efficiency gain/loss for 2012 incorrectly as it did not assume actual capex for 2012 was equal to the forecast determined by ESC for that year.

In relation to opex, Multinet did not adjust the opex benchmarks using the approach adopted by the ESC to establish the benchmarks. The AER notes, however, that it was not possible for Multinet to adjust its 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.

The AER also found errors in the actual opex Multinet used to calculate the carryover. The actual opex amounts used by Multinet did not reconcile with its regulatory accounts. The AER used the opex amounts in the regulatory accounts excluding:

- unaccounted for gas expenditure
- licence fees.

These should be excluded because they were not included in the benchmark opex. The AER also removed some fees paid to Energy Partnership (Gas) Pty Ltd from actual opex. For the reasons discussed in attachment 6, the AER considers some of the costs allocated to Multinet were not actual costs and consequently these should not be included in the carryover calculation.

Consequently the AER considers Multinet did not calculate the carryover from the 2008–12 access arrangement period in accordance with the incentive mechanism in its access arrangement. Therefore, the AER has recalculated the carryover amounts using the approach set out in Multinet's Access arrangement for 2008–12 and the ESC's *Gas Access Arrangement Review 2008–2012 Final Decision* (Table 7.3).

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574 Multinet, *National Gas Law Access Arrangement by Multinet Gas (DB No. 1) Pty Ltd and Multinet Gas (DB No. 2) Pty Ltd trading as Multinet Gas Distribution Partnership for the Distribution System ("Multinet") Part B – Reference Tariffs and Reference Tariff Policy*, clause 6.4(b)(2), 2 June, pp. 15–16.

Table 7.3 AER draft decision on Multinet's carryover from the 2008–12 access arrangement period ($million, 2012)

Efficiency carryover	2013	2014	2015	2016	2017	Total
Opex efficiency carryover	–3.7	–2.9	–3.5	–3.2	–	–13.4
Capex efficiency carryover	–0.1	0.0	–1.5	–1.7	–	–3.3
Total	**–3.8**	**–2.9**	**–5.0**	**–4.9**	**–**	**–16.7**

Source: AER analysis.

The AER's application of Multinet's incentive mechanism properly reflects decrements resulting from the operation of the incentive mechanism in accordance with the transitional provisions of the NGR.[575] The AER's operation of the mechanism is informed by the ESC's final decision approving Multinet's 2008–12 access arrangement. In that decision, Multinet's proposal incorporated a fixed principle that negative carryovers not be carried over. In response, the ESC stated:

> In the 2003 GAAR the Commission discussed at length and subsequently rejected arguments from the distributors that a 'no net negative carryover' principle should be incorporated in the Access Arrangements. The Commission's reasons included that:[576]
>
> - the distributors' proposal was not symmetric in the treatment of efficiency savings and losses
> - under the distributors' proposals there would be an incentive for the distributor to defer making efficiency savings in the latter years of a regulatory period in the face of efficiency losses in earlier years of the period.
>
> This reasoning still applies and the Commission considers that Multinet's proposal is not consistent with the Code. Incorporating a no negative carryover principle would undermine the effectiveness of the efficiency carryover incentive mechanism and therefore would be inconsistent with sections 8.1(a), (e) and (f).
>
> In the 2003 GAAR the Commission determined that it should be able to exercise its discretion (within the constraints of the Code) in relation to whether a negative carryover was carried forward depending upon individual circumstances. The Commission remains of the view that this is the most appropriate way to ensure the requirements of the Code are met. In the event that the Commission's forecasts are ultimately unattainable, the Commission will take this into account when determining whether a negative carryover should apply.
>
> The Commission's final decision is to require removal of this proposed amendment.

Accordingly, the AER has considered for the purposes of this decision whether opex forecasts were unattainable.

The ESC's approach is reflected in Multinet's proposal. Multinet proposed to disregard the negative carryover accrued in the 2008–12 access arrangement period because it considered the benchmarks were set too low in the ESC's 2008 decision.[577] The implication is that they were unattainable. Multinet presented no other evidence on this point other than that it did not achieve the benchmarks.

575 NGR, Schedule 1, cl 5(1)(a); Schedule 1, cl 2.

576 ESC, *Gas access arrangement review 2008–2012, Final decision*, 7 March 2008, pp. 564–565.

577 Multinet, *Access arrangement information*, 30 March 2012, p. 177.

The AER considers Multinet's overspend does not of itself demonstrate the benchmarks were unattainable. Other factors relevant to Multinet's circumstances also must be considered in order to assess the validity of Multinet's assertion that the benchmarks set were unachievable.

Figure 7.1 compares Multinet's actual expenditure in the 2008–12 access arrangement period against its adjusted opex and capex benchmarks for the efficiency incentive and carry-over mechanism in its 2008–12 access arrangement. The negative opex carryover is largely driven by the efficiency loss in 2011 (the opex base year), with this accounting for $12.7 million of the $13.4 million opex penalty. These expenditure increases include business transformation costs incurred by Multinet, which it estimated as $1.8 million.[578]

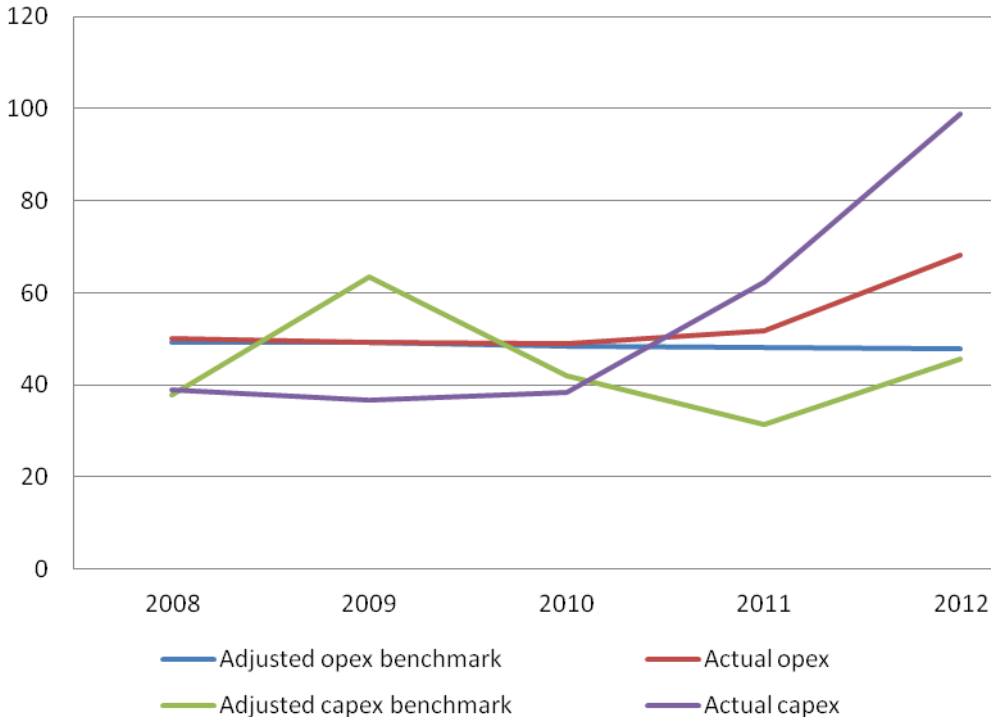
On reviewing these expenditure increases, the AER considers the negative carryover is largely the result of a business decision by Multinet to restructure its operations and to do so in that particular year, 2011.

The expenditure increases were as a direct result of Multinet opting to change its outsourcing arrangement with Jemena Asset Management, because it considered that arrangement was not efficient. This is further discusses in attachment 6. That Multinet opted to pursue a different arrangement in 2011 by bringing some services in house is not evidence that opex benchmarks were unattainable.

The AER further notes that Multinet's actual opex is consistent with the incentives that would prevail if an efficiency carryover mechanism were not in place. That is, in the absence of an efficiency carryover mechanism, service providers have an incentive to increase opex in the base year to increase opex forecasts in the following access arrangement period.

578 Multinet, Response to information request 38, 2 August 2012.

Figure 7.1 Benchmark and actual expenditure ($million, 2012)



Source: AER analysis.

Similarly for capex, the negative carryover is largely driven by a step up in expenditure in 2011 (Figure 7.1). As for opex, this expenditure profile is consistent with the incentives that would prevail if an efficiency carryover mechanism were not in place. Given these incentive, the AER does not consider that over expenditure necessarily indicates that the benchmarks were unattainable.

Multinet also noted its opex performance was closely aligned with the circumstances of United Energy as discussed in the AER's Victorian electricity distribution price determination for 2011–15. Multinet submitted that its outsourcing contract with its service provider is similar to the contract United Energy had with its service provider.[579] Multinet submitted that its service provider provided the service at a loss (that is, it earned negative margins). In particular, it considered the anomalies the AER identified in relation to United Energy apply equally to Multinet and likewise, the opex negative carryover incurred should be disregarded.[580]

For United Energy, the AER calculated and applied the carryovers in accordance with the relevant electricity regulatory framework including the National Electricity Rules and ESC's decision *Electricity Distribution Price Review 2006–10*. In order for United Energy's incentive mechanism to provide a continuous incentive to reduce opex, the actual expenditure used to calculate carryovers should have been the same as the actual expenditure used to set forecasts. The AER forecast United Energy's opex for 2011–15 based on its service provider's costs including the loss, not its actual costs incurred. The AER considered that to

579 Multinet, *Response to AER information request 8,* 29 May 2012, 5, June 2012.
580 Multinet, *Access arrangement information*, 30 March 2012, pp. 178–179.

use these same costs to calculate United Energy's carryover would penalise United Energy for an increase in its service providers costs, not its own. Recognising that this would be an anomalous outcome, it therefore exercised its discretion not to apply the negative carryover amounts.[581]

The AER accepts the opex incentive mechanism in Multinet's access arrangement is similar to that which applied to United Energy. Both required the service providers actual costs be used as the basis of forecasting opex in order to provide a continuous incentive to reduce opex. The AER also acknowledges that Multinet's outsourcing contract is similar to that of United Energy. However, Multinet's proposal is based on the assumption that its approved forecast opex allowance would not be based on its actual opex. The AER has assessed Multinet's proposal and forecast opex for the 2013–17 access arrangement period in attachment 6. The AER has not approved the forecast allowance proposed by Multinet. The opex forecast approved in this draft decision is based on Multinet's actual opex and as such no anomalous outcomes result from the interaction between Multinet's forecast opex and the operation of the incentive mechanism.

The AER notes the above analysis of United Energy's incentive mechanism is particular to opex and has no application to Multinet's negative capex carryover. United Energy was not subject to a capex incentive scheme. The AER notes that capex is not recurrent and is forecast in a different manner.

Therefore, consistent with the operation of the incentive mechanism in Multinet's access arrangement and the transitional provisions specific to the NGR, the AER considers the negative amounts should be carried forward to the 2013–17 access arrangement period to ensure effective incentives to pursue efficiencies consistent with the RPP.

7.4.2 Proposed incentive mechanism for the 2013–17 access arrangement period

The AER accepts Multinet's proposal to apply an incentive mechanism to opex. However, the AER identified issues with Multinet's proposed opex incentive mechanism that it considers require amendment to make the mechanism consistent with r. 98 of the NGR and the RPP.

The AER does not accept Multinet's proposal to apply an incentive mechanism to capex. 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.[582]

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581 The AER's reasons for setting aside the incentive mechanism for United Energy are in AER, *Draft decision – Victorian electricity distribution network service providers distribution determination 2011–2015*, June 2010, pp. 560–562; AER, *Final decision – Victorian electricity distribution network service providers distribution determination 2011–2015*, October 2010, pp. 594–595

582 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.[583] The same rationale largely applies to gas distribution businesses 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 for 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 five 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.[584]

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.[585] 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 period, which is in the long term interest of consumers and consistent with the national gas objective.[586]

The AER is also satisfied the inclusion of an opex incentive mechanism in Multinet's Access arrangement will provide Multinet a reasonable opportunity to recover at least its efficient costs consistent with the RPP. [587] 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 Multinet'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 five years after the loss being made.

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583 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.

584 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.

585 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.

586 NGL, s. 23.

587 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 Multinet to retain the reward associated with efficiency gains for five years. This is achieved by basing opex forecasts on actual expenditure in the penultimate year of the preceding access arrangement period. If external benchmarks, or a bottom up forecast, is used to set opex allowances Multinet 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 (loss), 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 Multinet 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 off efficiency, the AER considers step changes should only be provided for new regulatory obligations or changes in the external operating environment beyond Multinet's control.

Revisions to the incentive mechanism

The AER considers some clauses in the incentive mechanism require revision with respect to:

- the calculation of efficiency gains or losses for 2013
- forecast opex applicable for the purposes of calculating efficiency carryover from the fourth access arrangement period (2013–17)
- adjustments to forecast opex for the purposes of calculating efficiency carryover from the fourth access arrangement period (2013–17)
- whether and how to account for changes in classification of costs to opex
- the symmetrical nature of the mechanism.

The AER has set out an incentive mechanism to be included in Multinet's 2013–17 Access arrangement that addresses these matters, encourages 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 Multinet a continuous incentive to find operating expenditure efficiencies through a combination of:
    - an ex ante forecast of operating expenditure in Multinet's Total Revenue
    - increments or decrements from the operation of this incentive mechanism that allow Multinet 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 Multinet'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 Multinet 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 Multinet 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 Multinet 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.X[588] in Multinet'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 Multinet changes its approach to classifying costs as either capex or opex during the access arrangement period, Multinet will adjust the forecast opex in table X.X[589] in Multinet's Access Arrangement Information so that the forecast expenditures are consistent with the capitalisation policy changes.

13. If there is a change in Multinet's approach to classifying costs as either capex or opex, Multinet must provide to the AER a detailed description of the change and a calculation of its impact on forecast and actual opex.

Table 7.4 must be added to Multinet's Access Arrangement information to specify the forecast expenditure used as the basis for measuring efficiencies.

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588 This should refer to the table in Multinet's Access arrangement information 2013–2017 that replicates Table 7.4.

589 This should refer to the table in Multinet's Access arrangement information 2013–2017 that replicates Table 7.4.

Table 7.4 Forecast operating expenditure for the purposes of the incentive mechanism in the 2012–17 access arrangement ($million, 2012)

	2011	2012	2013	2014	2015	2016	2017
Forecast opex	51.9	51.6	51.9	52.5	53.2	54.7	55.2

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.[590] 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 whether it was appropriate for the capex incentive mechanism to continue to operate in its 2007 draft decision for the Victorian gas distribution networks.[591] 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.[592]

A comparison of the actual capex spend of the Victorian gas distribution businesses against forecast capex in the 2003–07 and 2008–12 access arrangement periods supports the hypothesis that the distribution businesses are increasingly deferring their capex programs. These deferrals are occurring in all capex categories, including significant deferral of non-volume driven capex.

Multinet's capex performance with respect to benchmarks in the 2008–12 access arrangement period shows it has increasingly deferred capex in non-volume driven capex categories. In particular, Multinet has significantly deferred IT and augmentation capex to 2011 and underspent other capex. The forecasts for these capex categories for 2012 and the

590 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.

591 ESC, *Gas Access Arrangement Review 2008–2012 Draft Decision*, 28 August 2007, pp. 522–524.

592 ESC, *Gas Access Arrangement Review 2008–2012 Draft Decision*, 28 August 2007, pp. 523–524.

2013–17 access arrangement period are higher than the current benchmarks, suggesting the underspending was due to deferral.

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,[593] and no service standard incentive mechanism is in place, the AER considers Multinet does not have a balanced incentive to maintain service levels.

For these two reasons, the AER considers Multinet'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. The AER considers the potential risk of underinvestment in the pipeline outweighs the potential benefits of the incentives to generate capex efficiencies. Therefore, the proposed capex incentive mechanism would result in outcomes that are inconsistent with the requirements in the RPP[594] and is inconsistent with r. 98 of the NGR. For these reasons, the AER requires Multinet to remove clauses 6.4(a)(3), 6.4(a)(6), 6.4(b)(2), and 6.4(b)(3)(C) from the proposed access arrangement.

7.5 Revisions

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 current access arrangement period as set out in tables 7.1 and 7.3.

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 7.4.

593 Under the Gas Industry Act 2001 (Victoria).

594 In particular, s24(3)(a), (3)(c), (6) and (7) of the NGL.

8 Corporate income tax

When determining the total revenue for Multinet, the AER must estimate Multinet's cost of corporate income tax.[595] Multinet has adopted the post-tax framework to derive its revenue requirement for the 2013–17 access arrangement period.[596] 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 Multinet's proposal to use a combination of the ESC's tax roll forward approach and the AER's post-tax revenue model (PTRM) to estimate the forecast corporate income tax allowance. However, the AER does not approve Multinet's proposed forecast corporate income tax allowance of $54.5 million ($nominal)[597] for the access arrangement period. This is mainly because of the AER's adjustments to Multinet'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 Multinet's proposed method to establish the opening tax asset base as at 1 January 2013. However, the AER does not approve some of Multinet's proposed tax additions during the 2008–12 access arrangement period, and therefore does not approve Multinet's opening tax asset base as at 1 January 2013. The AER's adjustments to the tax additions reduce Multinet's proposed opening tax asset base as at 1 January 2013 by approximately $41.4 million (nominal), or 10.7 per cent.

The AER accepts Multinet's proposal to maintain separate tax groups for tax depreciation purposes. The disaggregation of tax groups reflects the different historical tax treatment applied to Multinet'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 Multinet's proposed standard tax asset lives for group 7 tax assets associated with forecast capex for the 2013–17 access arrangement period, except for the 'Land & buildings' asset class. 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 Multinet's proposed tax depreciation approach for all of its group 7 tax assets except for the 'Land & buildings' asset class. Most of Multinet's proposed tax deprecation approaches are consistent with the ESC's approved tax depreciation approaches in the 2008–12 access arrangement.

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595 NGR, r. 76(c).

596 Multinet, *Post tax revenue model*, March 2012.

597 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 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 $27.7 million ($nominal) as shown in Table 8.1. Based on the approach to modelling the cash flows in the PTRM, the AER has derived an effective tax rate of 31.96 per cent for this draft decision.

Table 8.1 AER's draft decision on corporate income tax allowance for Multinet ($million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	6.7	6.1	6.6	8.0	9.6	36.9
Less: value of imputation credits	1.7	1.5	1.6	2.0	2.4	9.2
Net corporate income tax allowance	5.0	4.6	4.9	6.0	7.2	27.7

Source: AER analysis.

8.2 Multinet's proposal

For the 2013–17 access arrangement period, Multinet proposed a total corporate income tax allowance of $54.5 million ($nominal) as set out in Table 8.2 .

Multinet 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.[598] In estimating its corporate income tax allowance, Multinet used:[599]

- an opening tax asset base of $134.7 million ($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 8.2 Multinet's proposed corporate income tax allowance ($million, nominal)

	2013	2014	2015	2016	2017	Total
Tax payable	15.1	13.4	13.5	14.5	16.1	72.7
Less: value of imputation credits	3.8	3.3	3.4	3.6	4.0	18.2
Net corporate income tax allowance	11.3	10.1	10.1	10.9	12.1	54.5

Source: Multinet, *PTRM,* March 2012.

598 Multinet, *Post tax revenue model*, March 2012
599 Multinet, *Post tax revenue model*, March 2012

Consistent with its earlier access arrangements, Multinet 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. Multinet 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, Multinet proposed a new group (group 7) for capex to be incurred in 2013–17. Multinet's proposed tax depreciation approaches for its forecast capex are set out in Table 8.3.

Table 8.3 Multinet'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	Declining balance
Meters domestic	Declining balance	Declining balance
Meters industrial & commercial	Declining balance	Declining balance
Land & buildings	Straight line	Declining balance
Other assets	Declining balance	Declining balance
Repairs	Fully deductible	Fully deductible

Source: Multinet, *PTRM,* March 2012

8.3 Assessment approach

The AER's approach to calculating Multinet'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 Multinet's business. The AER has modelled Multinet's tax expenses over the 2013–17 access arrangement period. Interest tax expense is estimated using a benchmark 60 per cent gearing, rather than Multinet'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 Multinet's total revenue.[600]

The corporate income tax allowance is an output of the AER's PTRM. The AER therefore has assessed Multinet's proposed corporate income tax allowance by analysing Multinet's proposed inputs to the PTRM for calculating the tax allowance. These inputs include:

- the opening tax asset base as at 1 January 2013

[600] NGR, r. 76(c).

- 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 Multinet's proposal, the AER has had regard to the NGO and the revenue and pricing principles.[601]

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 Multinet'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 2.[602]

The AER assesses Multinet'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 Multinet'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 periods where necessary.

Given Multinet proposed to use the declining balance tax depreciation approach for most of the group 1–6 tax assets,[603] these tax asset classes do not require remaining tax asset lives.[604]

8.4 Reasons for decision

The AER's draft decision on Multinet's corporate income tax allowance is $27.7 million ($nominal). This represents a reduction of $26.8 million ($nominal) or 49.2 per cent of Multinet's corporate income tax allowance. The AER accepts most of Multinet's proposed methods for calculating the corporate income tax allowance. However, the AER adjusted several of Multinet'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

601 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.

602 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.

603 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.

604 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 tax depreciation approach for the proposed 'Land & buildings' asset class 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 Multinet's approach to determine the opening tax asset base as at 1 January 2013. Multinet used the ESC's approved tax asset base as at 1 January 1998, and rolled this forward using actual capex until 1 January 2007.

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 Multinet'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.[605]

Tax additions

The AER does not approve Multinet'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). Also, Multinet used forecast rather than actual capex to roll forward the tax asset base from 2007 to 2012. The tax asset base should be rolled forward with actual capex so the forecast tax allowance is the best possible estimate of Multinet's circumstances in respect of its tax liabilities. The AER has therefore amended Multinet's proposed tax additions for 2007–12 to reflect actual capex that is consistent with audited regulatory accounts. Because Multinet'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 adjustments to the tax additions represent a reduction of approximately $68.6 million ($nominal) or 19.0 per cent of Multinet's proposed tax additions for 2007–12. The AER's approved tax additions for 2007–12 are set out in Table 8.4.

[605] NGR, r. 74(2)(b).

Table 8.4 AER's draft decision on tax additions for 2007–12 ($million, nominal)

Tax asset class	2007[a]	2008	2009	2010	2011	2012
Mains and services	68.8	33.8	33.0	27.4	33.2	40.6
Meters (group 5)	1.9	n/a	n/a	n/a	n/a	n/a
Meters domestic (group 6)	n/a	1.4	1.6	3.1	3.2	4.6
Meters industrial & commercial (group 6)	n/a	0.4	0.4	0.7	0.9	1.8
Land & buildings	–	–	–	–	0.1	–
Other assets	1.0	0.9	1.3	7.2	24.8	0.6
Repairs	–	–	–	–	–	–
Total	71.7	36.5	36.3	38.3	62.3	47.6

Source: AER analysis.
(a) The 2007 tax additions include tax addition for gas extension 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 Multinet's tax asset base and therefore the corporate income tax allowance for the 2013–17 access arrangement period, as required by the NGR.[606]

'Land & buildings' asset class

The AER does not approve Multinet'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 Multinet'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 be split into two separate asset classes of 'Land' and 'Buildings'.

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.[607] This is because land is a non-depreciable asset under the Australian taxation law, and does not diminish in its useful life.[608] The *Income Tax Assessment Act* (ITAA) 1997 excludes land from the definition of a 'depreciating asset'.[609]

This issue of a single 'Land & buildings' asset class is also relevant to other Victorian gas distribution businesses. Therefore, the AER sent an information request to Multinet and other

606 NGR, r. 74(2)(b).
607 AER, *Roma to Brisbane Pipeline draft decision,* April 2012, p. 22; AER, *Aurora Energy draft distribution determination*, November 2011, p. 262.
608 Australian Accounting Standard Board, *Accounting standard AASB1021: Depreciation,* August 1997, pp. 10–11.
609 ITAA 1997, s. 40-30.

distribution businesses to inquire about a possible split of the 'Land & buildings' asset class in the opening tax asset base as at 1 January 2013.[610] In response, Multinet submitted that the entire opening tax asset base value for the 'Land & building' asset class in the opening tax asset base as at 1 January 2013 relates to land.[611] However, responses from the other distribution businesses indicate that the 'Land & buildings' asset class was established in an aggregated form as part of privatisation process initiated by the Victorian Government in 1997.[612] These businesses stated that they did not have sufficient information to allow for a split of the opening tax asset base value as at 1 January 2013 between land and buildings.[613] For these distribution businesses, the AER allocated all of the opening tax asset base value for the 'Land & building' asset class into the 'Buildings' asset class so it can continue to depreciate. This adjustment maintains consistency with the depreciation treatment of this tax asset class by the ESC for the 2008–12 access arrangement period.

The AER sent a further request to Multinet seeking evidence that the entire tax asset value for the 'Land & building' asset class as at 1 January 2013 relates to land.[614] At the time of publishing this draft decision, Multinet has not responded to the information request. On this basis, the AER considers that it is appropriate to apply the same treatment to Multinet's 'Land & buildings' asset class as was applied to the same asset classes of the other distribution businesses. Therefore, the AER has split the 'Land & buildings' asset class into two separate asset classes of 'Land' and 'Buildings'; and allocated all of the opening tax asset base value from that combined asset class into the 'Buildings' asset class for the 2013–17 access arrangement period.

The AER's draft decision on Multinet's tax asset base roll forward for the 2007–12 access arrangement period is set out in Table 8.5.

Table 8.5 AER's draft decision on Multinet'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	260.2	299.0	301.7	304.8	309.6	335.4
Tax additions	71.7	36.5	36.3	38.3	62.3	47.6
Tax depreciation	32.9	33.8	33.2	33.5	36.5	39.3
Closing tax asset base	299.0	301.7	304.8	309.6	335.4	343.7

Source: AER analysis.

610 AER, *AER information request 12 (for SP AusNet)*, 21 June 2012; AER, *AER information request 16 (for Envestra)*, 21 June 2012; AER, *AER information request 20 (for Multinet)*, 21 June 2012.

611 Multinet, *Response to AER information request 20*, 25 June 2012.

612 Envestra, *Response to AER information request 16*, 28 June 2012; SP AusNet, *Response to AER information request 12*, 25 June 2012.

613 Envestra, *Response to AER information request 16*, 28 June 2012; SP AusNet, *Response to AER information request 12*, 25 June 2012.

614 AER, *AER information request 20 follow-up*, 4 July 2012.

8.4.2 Tax depreciation approaches

The AER accepts Multinet's proposal to maintain separate tax groups for tax depreciation purposes. The AER approves Multinet's proposal to continue applying the same tax depreciation approaches to group 1–6 tax assets as allowed by the ESC in the 2008–12 access arrangement. With the exception of the 'Land & buildings' asset class, the AER approves Multinet's proposed tax depreciation approaches to group 7 tax assets for forecast capex to be incurred in the 2013–17 access arrangement period.

The AER does not approve Multinet's proposed change of tax depreciation approach from straight-line method to the declining balance method for the 'Land & buildings' asset class in group 7 tax assets. As discussed in section 8.4.1, land is a non-depreciating asset under provisions of the ITAA.[615] Therefore the AER has split this asset class into two separate asset classes of 'Land' and 'Buildings' for the 2013–17 access arrangement period. Under the ITAA 1997, buildings are not subject to tax depreciation. However, the tax law allows deductions for capital works (including buildings) be claimed at a rate of 2.5 per cent over a 40 year period[616] (which is the ESC's approved tax standard life for the 'Land & buildings asset class in group 6 tax assets). Therefore, the AER considers that new capex for the 'Buildings' asset class over the 2013–17 access arrangement period should be depreciated using the straight-line method at a rate of 2.5 per cent over the standard tax asset life of 40 years (see section 8.4.3).

The AER's draft decision on Multinet'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 8.6.

Table 8.6 AER's draft decision on Multinet's tax depreciation approaches for group 7 tax assets

Tax asset class	Group 7 (2013–17 capex)
Mains and services	Declining balance
Meters domestic	Declining balance
Meters industrial & commercial	Declining balance
Land	n/a
Buildings	Straight line
Other assets	Declining balance
Repairs	Fully deductible

Source: AER analysis.
Note: 'n/a' is not applicable.

8.4.3 Standard tax asset life

With the exception of the 'Land & buildings' asset class, the AER approves Multinet's proposed standard tax asset lives for group 7 tax assets for the 2013–17 access arrangement

615 ITAA 1997, s. 40-30.
616 ITAA 1997, section 43-15.

period. This is because they are consistent with those prescribed by the Commissioner for Taxation in Tax Ruling 2012/2 and the ESC's approved standard tax asset lives in the earlier access arrangement periods.[617]

Multinet proposed a standard tax asset life of 40 years for the 'Land & buildings' for the purpose of calculating tax depreciation for the 2013–17 access arrangement period.[618] This 40 year life is consistent with the ESC's approved standard tax asset life for Multinet's 'Land & buildings' asset class in the 2008–12 access arrangement.[619]

As discussed in section 8.4.1, land is a non-depreciating asset. Therefore, the AER has split the 'Land & buildings' asset class into two separate asset classes of 'Land' and 'Buildings' to apply from 1 January 2013. The AER considers that:

- the 'Buildings' asset class should be assigned a standard tax asset life of 40 years. This is consistent with the standard economic life approved by the ESC for the 2008–12 access arrangement period.[620]
- 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 Multinet's PTRM).

The AER's approved standard tax asset lives for Multinet's group 7 tax assets for the 2013–17 access arrangement period are set out in Table 8.7.

Table 8.7 AER's draft decision on Multinet's standard tax asset lives for group 7 tax assets

Tax asset class	Group 7 (2013–2017 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.
Note: 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.

617 ESC, *Multinet GAAR 2008 revenue model further final decision*, 2008.
618 Multinet, *PTRM*, March 2012.
619 ESC, *Multinet GAAR 2008 revenue model further final decision,* 2008.
620 ESC, *Multinet GAAR 2008 Revenue Model Further Final Decision*, 2008.

8.4.4 Remaining tax asset lives

Multinet 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. Remaining tax asset lives for the majority of Multinet'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 Multinet'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.

The AER approves Multinet'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 (Tribunal) in its review of the AER's 2010 distribution determinations for Energex, Ergon Energy and ETSA Utilities.[621] The AER also adopted the value of 0.25 for gamma in the recent draft decision for the Roma to Brisbane gas pipeline.[622] 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 8.1.

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 8.4.

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 8.6.

Revision 8.4: Make all necessary amendments to reflect the AER's draft decision on standard tax asset lives, as set out in Table 8.7.

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621 Australian Competition Tribunal, *Application by Energex Limited (Gamma) (No. 5)[2011] ACompT 9*, 12 May 2011, paragraph 42.

622 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 Multinet for the 2013–17 access arrangement period. Demand is an important input into the derivation of Multinet's reference tariffs. It also affects opex and capex linked to network growth.

9.1 Draft decision

The AER approves the proposed demand forecasts under r. 74(2) of the NGR. The AER considers that the forecasting approach is arrived at on a reasonable basis. The AER also considers that the assumptions and data sets used by Multinet result in the demand forecasts that are arrived at on a reasonable basis; and represent the best forecasts possible in the circumstances.[623]

9.2 Multinet proposal

Multinet engaged the National Institute of Economic and Industry Research (NIEIR) to prepare its demand forecasts. The approach used by NIEIR involved:[624]

- the application of NIEIR's Victorian regional energy models – these regional economic and energy models are based on 11 statistical subdivisions and 31 local government areas in greater Melbourne. They produce forecasts of various economic indicators which are used in projecting gas demand.[625]
- a survey of the top 200 industrial contract customers in Victoria
- achieving consistency (where possible) with the AEMO gas forecasting work and the 2011 Victorian Annual Planning Report (VAPR).

Multinet submitted that NIEIR's methodology recognises the key drivers for future gas consumption and growth in the customer base, including:[626]

- economic growth and new housing activity
- the effect of trend warming in winter temperatures on gas demand
- differences in average consumption for new and existing gas customers – new infill housing is likely to have lower average levels of gas usage
- the impact of more efficient appliances – storage water heaters with instantaneous heaters or solar heaters; appliance stock efficiency improvements; and reverse cycle air conditioning replacing gas heating

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623 NGR, r.74(2)(b).

624 NIEIR, *Natural gas forecasts and customer number forecasts for the Multinet distribution region to 2021.* December 2011, p.23.

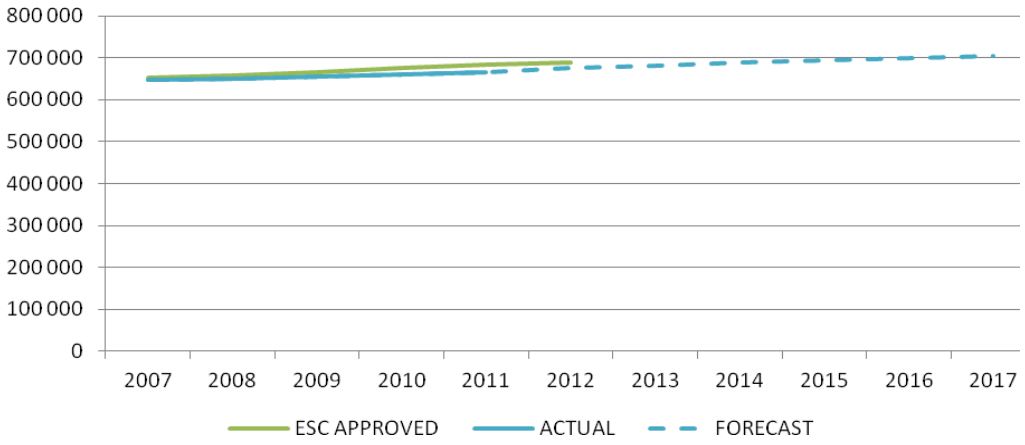
625 ACIL Tasman, *Review of demand forecasts for Multinet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p.8.

626 Multinet, *Access arrangement information*, 30 March 2012, p.195.

- Federal and State Government initiatives – including the introduction of a carbon tax; 6-star housing; solar hot water incentives; and energy efficiency measures.

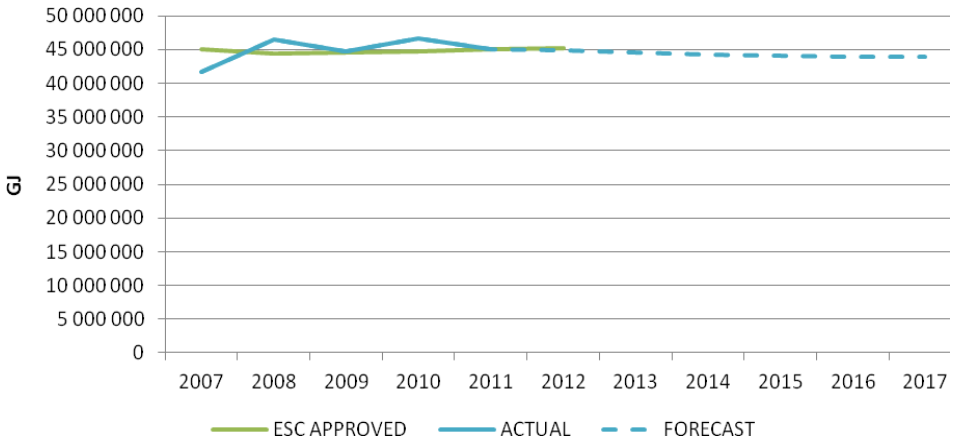
Figure 9.1 to Figure 9.3 illustrate Multinet's proposed demand forecasts.

Figure 9.1 Multinet Tariff V residential and non-residential customer numbers, approved, actual and forecast 2007 to 2017



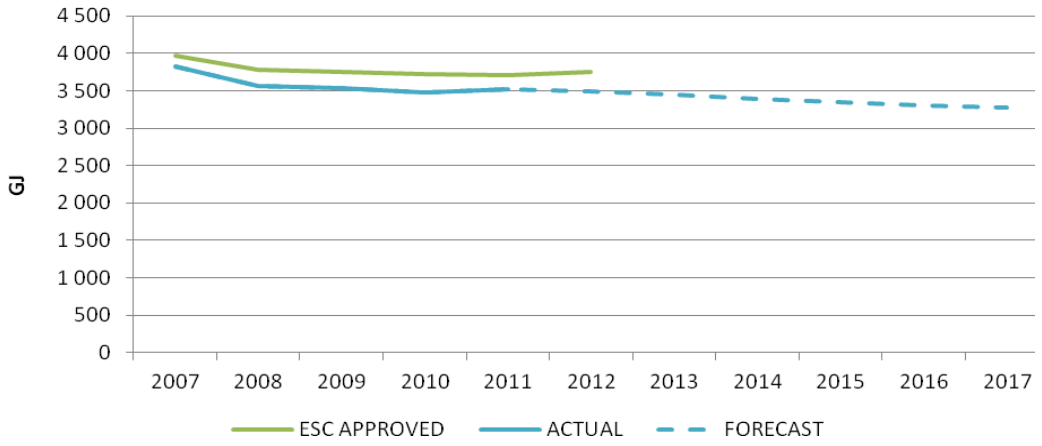
Source: Multinet, *Access arrangement information*, 30 March 2012, p.201 and Multinet, *Regulatory Information Notice* ; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision,* March 2008 Chapter 11

Figure 9.2 Multinet Tariff V residential and non-residential consumption – approved, actual and forecast 2007 to 2017



Source: Multinet, *Access arrangement information*, 30 March 2012, p.201 and Multinet, *Regulatory Information Notice* ; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision,* March 2008, Chapter 11

Figure 9.3 Multinet Tariff D consumption – approved, actual and forecast 2007 to 2017



Source: Multinet, *Access arrangement information*, 30 March 2012, p.201 and Multinet, *Regulatory Information Notice* ; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision,* 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 class[627]
- 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.[628]

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:[629]

- 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 in the circumstances.[630] These are:

- 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.

627 NGR, r. 72(1)(a)(iii).
628 NGR, r. 72(1)(d).
629 NGR, r. 74(2).
630 NGR, r. 74(2).

- 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 Multinet's proposed demand forecasts are arrived at on a reasonable basis and are the best possible forecasts in 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 Multinet'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 Multinet as part of its proposed access arrangement; specifically, Multinet's consultant report on demand forecast, demand forecast spreadsheets, access arrangement information, the regulatory information notice (RIN) pro forma.
- additional information provided by Multinet in response to the AER's information requests
- a report provided by ACIL[631]
- public submissions received over the course of consulting on the access arrangement proposal.[632]

9.4 Reasons for draft determination

The AER approves the proposed demand forecasts as they comply with r. 74(2) of the NGR. The AER considers that Multinet's forecasting approach is arrived at on a reasonable basis. The AER also considers that the assumptions and data used by Multinet result in demand forecasts that are arrived at on a reasonable basis; and are the best forecasts possible in the circumstances.[633]

9.4.1 Minimum, maximum and average demand

Under the NGR, Multinet's access arrangement information must include minimum, maximum and average demand for the earlier access arrangement.[634] 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

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631 ACIL Tasman, *Review of demand forecasts for Multinet– Victorian gas access arrangement review for the period 2013–2017*, August 2012.

632 Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012

633 NGR, r. 74(2)(b).

634 NGR, r. 72(1)(a)(iii)(A).

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. Multinet 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

Multinet's access arrangement information provided limited details about the methodology used to develop the demand forecasts and generally referred to NIEIR's report. Following a series of information requests and subsequent meetings with Multinet and NIEIR, the AER obtained high level information on NIEIR's methodology.

Multinet's proposed demand forecasts were developed using a mixture of model-generated results, data interrogation (i.e. analysis of trends and patterns) and non-statistical information (such as liaison with industry and government).[635] Multinet submitted that these forecasts are generated with some degree of judgement supported by experience and expertise about the forecast variables. The AER understands that this approach is different from the econometric analysis used by Envestra and SP AusNet. Multinet's demand forecasting framework accounts for high-level macroeconomic factors (such as GDP, interest rate, exchange rate) as well as regional-specific trends within Multinet's distribution region (demographic factors and industrial development/closures). The forecasts are adjusted to incorporate the impacts of government policy measures on gas consumption.

Multinet submitted that econometric analysis is "not always feasible".[636] The AER and ACIL recognize that econometric analysis, regression analysis in particular, based on insufficient data can be unhelpful. Multinet and NIEIR also submitted that, in the absence of consistent historical series for regression analysis, forecasting models should be calibrated with best estimates from the literature on gas demand modelling or similar works.[637] The AER agrees with this view.

The AER considers that Multinet's forecasting methodology is arrived at on a reasonable basis; and results in forecasts that are the best forecasts in the circumstances based on:

- the high level information that Multinet provided in support of its proposed demand forecasts, including a spreadsheet containing some assumptions made on key demand drivers
- the information obtained by the AER from responses to its information requests and subsequent meetings with NIEIR and Multinet

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635 Multinet, Response to the AER information request 3, 25 May 2012

636 Multinet, Response Submission to the AER information request 3, 25 May 2012

637 Multinet, to the AER information request 3, 25 May 2012

- ACIL's review of the proposed demand forecasts.

9.4.4 Application of the forecasting methodology

The AER considers that a forecasting methodology arrived at on a reasonable basis must be supported by accurate data and appropriate assumptions in relation to each of the input parameters. The assumptions regarding specific demand drivers and their impacts on demand need to be well founded as these also form the basis of any estimate.

The AER considers that the assumptions and data used in applying Multinet's forecasting methodology are unbiased such that the resulting estimates are arrived at on a reasonable basis and are the best possible forecasts in the circumstances. This section outlines the reasons for the AER's decision.

Weather normalisation

Multinet applied the effective degree days (EDD) method to weather normalise historical gas demand data.[638] Multinet also accounted for Summer Degree Days (SDD), which are calculated as the sum of the positive differences between mean daily temperature and a threshold temperature of 18 degrees celsius.[639] Multinet used regression analysis to establish a relationship between EDD, SDD and gas consumption.[640] The regression results, together with a trend analysis of weather conditions, were used to calculate the annual historical impact of global and urban warming on gas demand. Multinet assumed that, in the future, EDD will continue to decline at a rate of around 7.7 EDD each year.[641] Multinet also assumed that SDD will increase at around 3.8 EDD each year. These two measures are warming trends.

The Australian Energy Market Operator (AEMO) recently published historical EDD for the period 1970 to 2011.[642] ACIL analysed EDD data supplied by AEMO and found that, between 1977 and 2010, EDD in Victoria declined by -7.75 EDD per year. ACIL also calculated SDD over the same period and found that SDDs increased by 3.83 SDD per year. These findings on EDD and SDD match Multinet's assumptions.[643] ACIL concluded that Multinet's approach for weather normalising historic demand and preparing standard weather forecasts is appropriate. The AER accepts ACIL's findings.

Tariff V residential customer numbers

Multinet's proposed forecasts for tariff V residential customer numbers show an increase that is slightly above the historical trend (Figure 9.4). The AER understands that Multinet is landlocked and that any new connections will come from urban infill. New dwellings within

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638 NIEIR, *Natural gas forecasts and customer number forecasts for the Multinet distribution region to 2021. December 2011*, p.27.

639 NIEIR, *Natural gas forecasts and customer number forecasts for the Multinet distribution region to 2021. December 2011*, p.27.

640 NIEIR, *Natural gas forecasts and customer number forecasts for the Multinet distribution region to 2021. December 2011*, p.27.

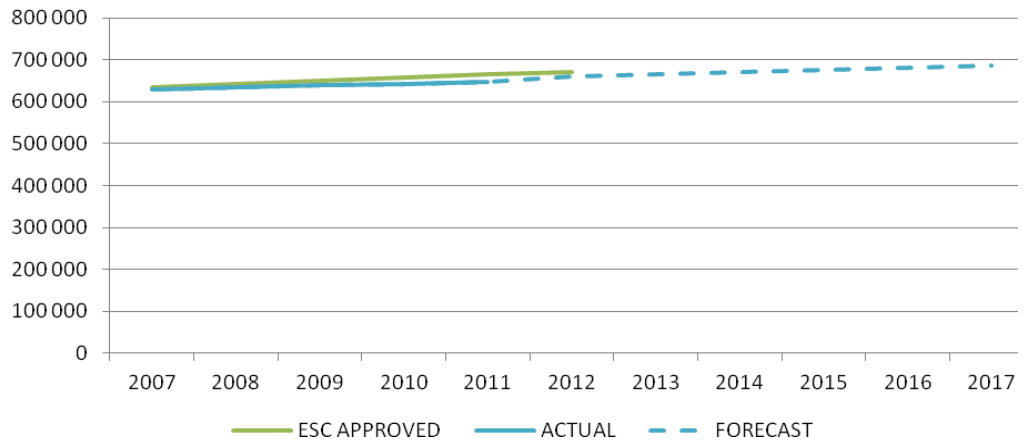
641 NIEIR, *Natural gas forecasts and customer number forecasts for the Multinet distribution region to 2021. December 2011*, p.28.

642 AEMO, *Review of weather standards for gas forecasting Part 1 – Victorian EDD review,* April 2012.

643 ACIL Tasman, *Review of demand forecasts for Multinet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 12–14.

Multinet's region can be expected to be smaller and more densely built than existing dwellings. While these dwellings are likely to be more efficient in their gas usage, they are likely to contain gas assisted appliance such as a solar–hot water system. For example, when an old building is replaced with two or more smaller buildings, all other things being the same, it is likely to result in increased number of connections. Based on these reasons, the AER considers that Multinet's proposed tariff V customer numbers are arrived at on a reasonable basis and represent the best forecast possible in the circumstances.[644]

Figure 9.4 Multinet – Tariff V residential customer numbers approved, actual and forecast 2007 to 2017



Source: Multinet, *Access arrangement information*, 30 March 2012, p.201 and Multinet, *Regulatory Information Notice* ; ESC, *Gas Access Arrangement Review 2008-2012 - Final Decision,* March 2008, Chapter 11

Tariff D customer numbers

Multinet projected that the number of customers in Tariff D will decline by the end of the 2013–17 access arrangement period. Multinet and NIEIR attribute this decline to weak conditions in Victorian manufacturing and a spate of recent plant closures.[645] Multinet submitted that manufacturing has been declining as a share of gross state product due to a loss of competitiveness that has been compounded in recent periods by a sustained high exchange rate.[646] Multinet also submitted that the decline in its tariff D is reinforced by the high land values in Melbourne, leading to rezoning of commercial and industrial land.[647]

The AER acknowledges that because of the small customer base within the tariff D class, a relatively small change in absolute numbers represents a significant percentage of the customer group. The AER accepts that the factors identified by Multinet, in particular the depressed conditions in the Victorian manufacturing industry together with a strong Australian dollar, are likely to see a reduction in the number of tariff D customers.[648] The AER considers

644 A detailed analysis of the proposed tariff customer numbers is discussed in ACIL's report to the AER.

645 Multinet, Response to AER information request 23, 4 July 2012

646 Multinet, Response to AER information request 23, 4 July 2012.

647 Multinet, Response to AER information request 23, 4 July 2012.

648 ACIL Tasman, *Review of demand forecasts for Multinet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p 34.

the forecast for Tariff D customer numbers is arrived at on a reasonable basis and represents the best forecast possible in the circumstances.

Tariff V residential gas consumption

Figure 9.2 shows a slight decline in tariff V consumption over the access arrangement period. In its submission, the EUCV noted that the demand forecasts proposed by the Victorian gas distribution businesses could be understated.[649] 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 the distribution networks.

ACIL's analysis shows that tariff V residential gas consumption falls substantially below historical trend values.[650] The most influential factor in Multinet's projected decline in demand is the recent introduction of the six star building policy. The impact of this policy is not included within the historical trend. Another factor influencing the decline in demand is the geographical nature of Multinet's supply area. As noted above, Multinet is landlocked, meaning that any new connections will come from urban infill. Infill dwellings are likely to be smaller, more efficient in their gas usage (the type of gas appliances) and contain appliances that are not dependent on gas such as reverse cycle air conditioners. Based on these reasons, the AER considers that the proposed forecasts are arrived at on a reasonable basis and represent the best forecasts possible in the circumstances.

Based on the above reasons, the AER considers that Multinet's proposed demand forecasts are arrived at on a reasonable basis and represent the best forecasts possible in the circumstances.

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649 Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012, p. 42.

650 ACIL Tasman, *Review of demand forecasts for Multinet– Victorian gas access arrangement review for the period 2013–2017*, August 2012, p. 30.

10 Tariff setting

This attachment outlines the AER's assessment of the reference tariffs proposed by Multinet against the requirements of the NGR, specifically rules 93 and 94. 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 s 24(5) of the NGL.

10.1 Draft decision

The AER approves Multinet'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 1.2 of attachment 11 of 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 Multinet's proposal

Multinet proposed to maintain the current structure of its reference tariffs for the 2013–17 access arrangement period.[651] The proposed reference tariffs are outlined in Table 10.1.

The proposed tariff classes directly reflect Multinet's proposed reference services.[652] Attachment 1 of this draft decision discusses the proposed reference services.

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651 Multinet, *Access arrangement information* 30 March 2012, p. 211.

652 Multinet, *Access arrangement information* 30 March 2012, p. 183-185.

Table 10.1 Multinet 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 Metropolitan Residential tariff V Yarra Valley Residential tariff V South Gippsland	Fixed base charge Stepped variable usage charge, including seasonal pricing
Non–residential services	Non–residential tariff V Metropolitan Non–residential tariff V Yarra Valley Non–residential tariff V South Gippsland	Fixed base charge Stepped variable usage charge, including seasonal pricing
	Non–residential tariff D Metropolitan Non–residential tariff D Gippsland towns	Stepped variable demand charge, including seasonal pricing
	Non–residential tariff L Metropolitan	Stepped variable usage charge, including seasonal pricing Demand charges

Source: Multinet, *Access arrangement information*,30 March 2012 p. 183; p. 206 and p. 203–212.

Multinet proposed to change the structure of its current ancillary reference service tariffs by removing the differential charges for the Gippsland zone.[653] Table 10.2 outlines the current and proposed structure of ancillary reference tariffs.

[653] Multinet, *Access arrangement information*, 30 March 2012, p. 211.

Table 10.2 Multinet – structure of ancillary service tariffs

2008–12 access arrangement period (Current)	2013–17 access arrangement period (Proposed)	Parameter
Meter turn on/ or reconnect	Reconnect between the hours of 8am and 4pm on a business day	Fixed charge
Meter removal – various	Meter removal – various between the hours of 8am and 4pm on a business day	Fixed charge
Meter investigation – high account investigation	Meter investigation – high account investigation between the hours of 8am and 4pm on a business day	Fixed charge
Meter disconnection – use of locks and plugs	Meter disconnection – use of locks and plugs between the hours of 8am and 4pm on a business day	Fixed charge
Special meter read	Special meter read between the hours of 8am and 4pm on a business day	Fixed charge
Gippsland meter turn on/ or reconnect		Fixed charge
Gippsland Meter removal – various		Fixed charge
Gippsland meter investigation – high account investigation		Fixed charge
Gippsland meter disconnect – use of locks and plugs		Fixed charge
Gippsland special meter read		Fixed charge

Source: Multinet, *Access arrangement proposal: Part B: Reference tariffs and reference tariff policy*, p. 32; Multinet, *Multinet Gas 2012 Annual Tariff Report*, p. 19.

10.3 AER approach

In a full access arrangement, a service provider is required to specify for each reference service the reference tariff, the proposed approach to the setting reference tariffs.[654] This is done by:

- explaining how revenues and costs are allocated, including the relationship between costs and tariffs [655]
- defining the tariff classes[656]
- comparing the revenue to be raised by each reference tariff with the cost of providing each individual reference service[657]

654 NGR, rr. 48(1)(d)(i); 72(1)(j)(i); 72(1)(j)(ii)
655 NGR, r. 93(1)–(2)
656 NGR r. 94(1)–(2)
657 NGR, r. 94(3)

- explaining any pricing principles it employed[658]
- describing any pricing principles it employed.[659]

The AER is required to assess Multinet's proposed reference tariffs. Where the AER does not approve Multinet's proposal, the AER must determine the initial reference tariffs.

In its assessment of Multinet's proposed reference tariffs, the AER considered:

- information provided by Multinet; particularly:
  - the access arrangement information (AAI) – this document provides details of Multinet reference tariffs, including costs allocation methodology, pricing principles and information demonstrating the relationship between the costs of providing the reference services and Multinet's reference tariffs
  - additional information provided by Multinet in response to the AER's information requests
- submissions received in the course of consulting on the access arrangement proposal

Identifying the reference service

The NGR require Multinet to specify a reference tariff for each reference service.[660] In assessing Multinet'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.[661]

The AER considered how Multinet intends to charge for reference services. Firstly, the AER assessed how Multinet 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.[662] Costs must also be allocated to the reference service and other services to which the cost is directly attributable.[663]

Secondly, the AER assessed how Multinet grouped its customers into tariff classes.[664] Rule 94(1)-(2) of the NGR requires that a tariff class group together customers for reference services on an economically efficient basis and to avoid unnecessary transaction costs. The

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658 NGR, r. 94(3)–(4)
659 NGR, rr. 48(1)(d)(i); 72(1)(j)(i); 72(1)(j)(ii)
660 NGR, r, 48(1)(d)(i)..
661 NGR, r. 94(6).
662 NGR, r. 93
663 NGR, r. 93(2)
664 NGR, r. 94(1)–(2).

AER considered that customer connection and usage characteristics are reasonable cost drivers within a service provider's gas distribution system. The grouping of customers with similar connection and usage characteristics in the same tariff class reveals consistency with rule 94(1)–(2) of the NGR as 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 class[665]
- whether the tariff takes into account transaction costs associated with the tariff[666]
- whether the tariffs take into account the long run marginal costs of reference services[667]
- whether customers belonging to the relevant tariff class are able or likely to respond to price signals.[668]

10.4 Reasons for draft decision

The AER approves Multinet'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 this draft decision.. 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 sections of this draft decision and the AER's assessment of 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 tariff 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.[669] The EUCV further noted that great care

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665 NGR, r. 94(3).
666 NGR, r. 94(4)(b)(i).
667 NGR, r. 94(4)(a).
668 NGR, r.e 94(4)(b).
669 Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, June 2012, p 3

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.[670]

The AER has considered the EUCV submissions in making this draft decision on Multinet's proposed reference tariffs.

10.4.1 Allocation of revenues and costs to reference tariffs

Rules 93(1)–(2) of the NGR outlines the requirements that govern the allocation of revenue and costs between reference services and other services. Under the NGR, a service provider is required to include in its access arrangement the proposed basis of reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs.[671]

In its access arrangement information, Multinet failed to explain how it intends to allocate revenues and costs between reference services and other services over the 2013–17 access arrangement period. In particular, it did not provide a demonstration of the relationship between costs and tariffs as required under r. 72(1)(j)(i) of the NGR. The AER requested Multinet to provide this information to further the AER's assessment of compliance with r. 93(1)–(2) of the NGR.[672] In response, Multinet submitted that revenues and costs forecasts included in it access arrangement are only for the provision of reference services (haulage reference services and ancillary reference services).[673] It added that revenues and costs forecasts for the provision of non–reference services are excluded from Multinet's access arrangement.[674] Multinet also provided the AER with a spreadsheet that showed that revenues from non-reference services are excluded from the access arrangement.[675] This spreadsheet also showed how costs are allocated between its reference services.[676] The AER reviewed this information and found that Multinet's approach to costs and revenues allocation is consistent 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. Multinet outlined its proposed tariff classes in its access arrangement information, consistent with r. 94(1) of the NGR.[677] However, it did not explain how customers are grouped to establish these tariff classes. To assess compliance with r. 94(2) of the NGR, the AER requested Multinet to provide this information.[678] In response, Multinet stated that it has four customer classes and customers are allocated into these classes based on advice it receives from retailers.[679] Multinet added that retailers are required to obtain the necessary information from customers and assign them to the relevant tariff class.[680] Multinet did not provide any

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670 Energy Users Coalition of Victoria, Submission to the AER: SP AusNet, Envestra and Multinet access arrange

s arrangement proposals, June 2012, p 66

673 Multinet, Response to AER information request 19, 5 July 2012,

674 Multinet, Response to AER information request 19 , 5 July 2012,

675 Multinet, Response Submission to AER information request 19, 2 July 2012,

676 Multinet, Response Submission to AER information request 19, 2 July 2012,

677 Multinet, *Access arrangement information*, 30 March 2012, p. 203–212.

678 AER, Information request 19, 21 June 2012,

679 The four customer classes are: tariff V – residential, tariff V – commercial, tariff L and tariff D. Multinet, Response to AER's information request 19, 2 July 2012,

680 Multinet, Response to the AER's information request 19 of 21 June 2012, 2 July 2012.

details as what it meant by 'advice' and 'necessary information'. In order to progress the review, the AER reviewed the proposed access arrangement to identify factors that Multinet may have used to group customers into tariff classes.

In its proposed access arrangement, Multinet stated that it assigns new haulage reference tariffs and new haulage reference tariff components based on the following factors:[681]

- demand and connection characteristics
- the materiality of similar demand and connection characteristics
- the characteristics and location of the distribution supply point.

Multinet did not elaborate on specific parameters within each of the above factors.

Given the limited information provided by Multinet, the AER also had regard to the following considerations:

- the proposed reference tariff structure is similar to that of the current access arrangement
- there has been no material change to Multinet's gas distribution network that warrants a change in its current tariff structure.

Based on the information made available by Multinet and the above considerations, the AER considers that Multinet is relying on common characteristics to group customers into tariff classes. These characteristics include connection type, usage profile and location, which the AER considers to be reasonable cost drivers within Multinet's gas distribution network. Customer groupings that are economically efficient are likely to avoid transaction costs.[682]

As a result of the above analysis, the AER considers that that Multinet's tariff classes comply with r. 94(1) of the NGR and are consistent with r. 94(2) of the NGR.

10.4.3 Tariff classes and revenue limits

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.[683] The AER reviewed Multinet's definitions of avoidable and standalone costs for residential, non–residential and demand tariff classes. The AER considers that these definitions are acceptable for assessing compliance with r. 94(3) of the NGR. Multinet demonstrated that for each class within volume tariff (V) and demand tariff (D and L) classes, the expected tariff revenue lies on or between the avoidable and standalone costs (Table 10.3).

The AER is satisfied that Multinet's proposed reference tariffs are consistent with r. 94(3) of the NGR requirements.

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681 Multinet, *Access arrangement proposal: Part B: Reference tariffs and reference tariff policy* 30 June 2012, p. 6.
682 NGR, r. 94(2)(b).
683 NGR, r. 94(3).

Table 10.3 Multinet – avoidable, expected and stand alone costs ($2012)

Tariff class	Avoidable costs	Average revenue	Stand-alone costs	Compliance with rule 94(3)
Residential V ($/GJ)	1.31	4.35	5.06	Yes
Non-residential V ($/GJ)	0.28	1.53	1.69	Yes
Tariff L ($/GJ)	0.28	0.46	1.69	Yes
Tariff D ($00/MHQ)	0.37	4.82	11.82	Yes

Source: Adapted from Multinet, *Access arrangement information*, 30 March 2012, p. 205

Tariffs and charging parameters

Rule 94(4)(a) 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, Multinet used the Average Incremental Cost (AIC) approach to calculate the long run marginal cost (LRMC).[684] 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 Multinet made to derive the LRMC.[685] 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.[686] s. 14.4. Multinet stated that the calculated values of LRMC are sensitive to the assumptions that it made around a number of different variables.[687] As such, these should only be used as a guide when assessing price levels and structures, consistent with r. 94 (4)(a) of the NGR.

Rule 94 (4)(b) of the NGR requires that a tariff, if it consists of two or more charging parameters, be determined having regard to transaction costs and whether customers are able to or likely to respond to price signals. Multinet stated that its current tariffs are structured so as to allow end-use customer to respond to price signals.[688] Given that Multinet did not propose to change its tariff structure, the AER considers that the proposed reference tariff structure is consistent with r. 94 (4)(b) of the NGR.

In relation to its ancillary reference service tariffs Multinet proposed to remove Gippsland as a separate region and reducing charges for all services (Table 10.4).[689]

684 Multinet, *Access arrangement information*, 30 March 2012, p. 209.
685 These assumptions are outlined in: Multinet, *Access arrangement information,* 30 March 2012, p. 210.
686 Multinet, *Access arrangement information* , 30 March 2012, s. 14, p 203
687 Multinet, *Access arrangement information,* 30 March 2012, p. 211.
688 These assumptions are outlined in: Multinet, *Access arrangement information*, 30 March 2012, p. 211.
689 Multinet, *Access arrangement proposal: Part B: Reference tariffs and reference tariff policy*, p. 32; Multinet, *Multinet Gas 2012 Annual Tariff Report*, p. 19

Table 10.4 Multinet – comparison of ancillary service tariffs ($2013, GST Excluded)

Description		2008-12 Tariff	2013-17 Tariff
Meter turn on/ or reconnect	Reconnect between the hours of 8am and 4pm on a business day	84.73	39.46
Meter removal – various	Meter removal – various between the hours of 8am and 4pm on a business day	121.37	55.93
Meter investigation – high account investigation	Meter investigation – high account investigation between the hours of 8am and 4pm on a business day	122.65	133.64
Meter disconnection – use of locks and plugs	Meter disconnection – use of locks and plugs between the hours of 8am and 4pm on a business day	60.68	46.81
Special meter read	Special meter read between the hours of 8am and 4pm on a business day	7.13	6.01
Gippsland meter turn on/ or reconnect		112.98	Not Included in 2013-17
Gippsland Meter removal – various		162.12	Not Included in 2013
Gippsland meter investigation – high account investigation		163.39	Not Included in 2013
Gippsland meter disconnect – use of locks and plugs		75.68	Not Included in 2013
Gippsland special meter read		9.53	Not Included in 2013

Source: Multinet, *Access arrangement proposal: Part B: Reference tariffs and reference tariff policy*, p. 32; Multinet, *Multinet Gas 2012 Annual Tariff Report*, p. 19.

The AER required Multinet to explain why it intends to make the proposed changes to ancillary reference tariffs. In response, Multinet submitted that it has forecast a decrease in price for the South Gippsland region based on the pricing information received from an open tender process.[690] Multinet outlined that the benefit of the proposed ancillary reference service tariff structure has been passed on to the consumers in the form of lower charges.[691] The AER considers that designing ancillary reference service tariffs based on pricing information from an open and competitive tender process is likely to provide efficient outcomes. This reveals consistency with rr. 94(4)(a) and 94(4)(b)(i) of the NGR. The AER approves the proposed rationalisation of ancillary reference services in attachment 6of this draft decision. The AER approves the proposed structure of the ancillary reference tariffs.

690 Multinet, Response to information request 19, 2 July 2012

691 Multinet, Response to information request 4, 25 May 2012,

10.5 Revisions

Before the access arrangement can be approved, Multinet must amend the proposed reference tariffs as outlined below

Revision 10.1: Amend Schedule 1 of the access arrangement proposal – part B reference tariffs and reference tariff policy as indicated in revision 11.2 of attachment 11 of this draft decision.

11 Tariff variation mechanism

This attachment sets out the AER's consideration of Multinet's proposed reference tariff variation mechanism proposed by Multinet. 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 Multinet's proposed tariff variation mechanism for the 2013–17 access arrangement period. The AER considers that some elements of Multinet's proposed tariff variation mechanism are not consistent with the NGL and the NGR or that there are alternatives to some elements proposal that better meet the purpose of the NGR and NGL. In particular, the AER considers that:

- the proposed value of the rebalancing constraint and 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..[692]
- the proposed Financial Failure of a Retailer and Force Majeure events must be removed from the cost pass through mechanism
- the proposed Insurance Cap Event should be amended and two new events; a National Energy Customer Framework Event and Mains Replacement Event should be included
- certain aspects of the proposed cost pass through mechanism must be amended to achieve a consistent approach to assessment of pass through applications.

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

11.2 Multinet's proposal

Multinet proposed a tariff variation mechanism that is generally consistent with its current access arrangement other than updated values for the x factor, an increased rebalancing constraint and a carbon tax true up. It includes:[693]

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692 NGR, r. 92(2).

- an annual scheduled reference tariff adjustment, 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

Multinet proposed an annual tariff variation mechanism in the form of a weighted average price cap (WAPC) formula, consistent with its current access arrangement.[694] The proposed variation formula is:[695]

$$(1+CPI_t)(1-X_t)(1+L_t)(1+A_t) \geq \frac{\sum_{i=1}^{n}\sum_{j=1}^{m} p_t^{ij} \cdot q_{t-2}^{ij}}{\sum_{i=1}^{n}\sum_{j=1}^{m} p_{t-1}^{ij} \cdot q_{t-2}^{ij}}$$

where

p_t^{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;*

CPI_t is the CPI for calendar year *t*[696]

X_t is -14.7% for calendar year 2013 and 0% for each of the calendar years 2014-17

L_t is the licence fee factor, unchanged in definition from the current access arrangement

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693 Multinet, *Access arrangement information*, 30 March 2012, p.213-221.

694 Multinet, *Access arrangement information*, 30 March 2012, p.213.

695 Multinet, *Access arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy,* 30 March 2012 p.34.

696 CPI For a particular calendar year CPI is:
(a) 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 ;divided by
(b) 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 September quarter referred to in paragraph (a) minus one. For more details, see: Multinet, *Access arrangement proposal: Part A - Principal arrangements* 30 March 2012, p.16.

A_t is the approved pass through amount for Calendar year t

The key proposed changes from Multinet's current tariff variation mechanism for haulage reference services are:

- a new element in the adjustment factor (A_t) – Multinet proposed to include a carbon tax amount in the approved pass through adjustment factor[697]
- an increase in the value of rebalancing constraint from two per cent to five per cent.[698]

Ancillary Services

Multinet proposed to maintain the current tariff variation for ancillary services, which increases tariffs by the change in CPI on an annual basis.[699]

11.2.2 Cost pass through tariff variation mechanism

Multinet included a cost pass through tariff variation mechanism in its access arrangement proposal to recover costs resulting from relevant pass through events.[700] The pass through events proposed by Multinet are:[701]

- change in taxes event
- financial failure of a retailer event
- a declared retailer of last resort event
- force majeure event
- insurer credit risk event
- insurance cap event
- regulatory change event
- service standard change event

Multinet proposed no materiality threshold for the specified pass through events.[702] However, Multinet submitted that the materiality threshold should recognise the cost of developing and reviewing a pass through submission. In that regard, Multinet proposed to set a materiality threshold of $100K per event to account for administration costs of developing and reviewing the pass through events.[703]

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697 Multinet, Access arrangement information, , 30 March 2012, p.214; Multinet, *Access arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy*, 30 March 2012 p.37.
698 Multinet, *Access arrangement information*, 30 March 2012, p.214.
699 Multinet, *Access arrangement information*, 30 March 2012, p.214.
700 Multinet, *Access arrangement information*, 30 March 2012, p.216
701 Multinet, *Access arrangement information*, 30 March 2012, p.220.
702 Multinet, *Access arrangement information*, 30 March 2012, p.220.
703 Multinet, *Access arrangement information*, 30 March 2012, p.221.

11.2.3 Annual tariff variation process

Multinet proposed to maintain the current tariff variation processes.[704] 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.[705]

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)[706]
  - 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:[707]
  - 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 variation of a reference tariff 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 factors[708]

A reference tariff variation mechanism must give the AER adequate oversight or powers of approval over variation of the reference tariff.[709]

The AER is required to have regard to the following factors in deciding whether a reference tariff variation mechanism is appropriate for an access arrangement:[710]

- the need for efficient tariff structures
- the possible effects of the reference tariff variation mechanism on administrative costs

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704 Multinet, *Access arrangement information*, 30 March 2012, p.216.

705 Multinet, *Access arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy*, 30 March 2012, p.14.

706 NGR, r. 92(2).

707 NGR, r. 97(1).

708 NGR, r. 97(2).

709 NGR, r. 97(4).

710 NGR, r. 97(3).

- 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 structures and administrative costs of the AER, Multinet and natural gas consumers or potential consumers.[711] 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 Multinet and 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 a particular mechanics for reference tariff variation are appropriate. In this context, the AER assessed the potential impacts of Multinet'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).[712] The AER considered the implications of Multinet's proposal for the allocation of operational risk amongst the pipeline operator and users of pipeline services. Further, the AER assessed the implications of Multinet'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 when assessing a service provider's proposed reference tariff variation mechanism.[713] 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 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 the purpose of the regulatory framework.

In making its decision, the AER relied on:

- information provided by Multinet; particularly, the access arrangement information (AAI) and Part B of the proposed access arrangement – these documents provide details of Multinet's proposed price control mechanism
- additional information provided by Multinet in response to the AER's information requests
- submissions received in the course of consulting on the access arrangement proposal.

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711 NGR, r. 97(3)(a)-(b).
712 NGL, ss. 23–24.
713 NGR, r. 40(3).

11.4 Reasons for decision

The AER does not approve Multinet's proposed tariff variation mechanism for the 2013–17 access arrangement period. The AER considers that some elements of Multinet's proposed tariff variation mechanism are not consistent with the NGL or the NGR or that there are alternatives to some elements that better promote the purpose of the NGR. The elements that the AER does not approve relate to limited aspects of Multinet's proposal.

This section sets out the reasons for 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.

11.4.1 Annual tariff variation formula 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 forecast revenue from reference services and the portion of forecast total revenue allocated to reference services. Multinet'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 1.2. 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 the overall structure of Multinet's proposed annual tariff variation formula for variations to the reference service tariffs. The form 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 adjustment (adjustment factor).

The annual tariff adjustment formula proposed by Multinet 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-2). The AER is of the view that this is consistent with the most accurate measure available of the inflationary impacts on Multinet'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 the rebalancing constraint
- x factors.

The reasons for the AER decision on the proposed magnitude of the rebalancing constraint are discussed below. The AER's reasoning for not approving the proposed x factor values is discussed in the revenue section of this draft decision.

Rebalancing constraint

The AER approves Multinet's proposal not to apply a rebalancing constraint in the first year of the access arrangement. [714] In accordance with r. 97(3)(d) of the NGR, the AER has taken into account the factor that Multinet's proposal is consistent with how the rebalancing constraint applies in other gas decisions made by the AER and in the electricity industry.[715]

The AER does not approve the proposed increase (two to five per cent) in the rebalancing constraint. In assessing 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 consumers within the regulatory period. The AER considers that such outcomes are not consistent with the NGO.[716]
- The AER notes that the proposed rebalancing constraint is inconsistent with Multinet's current arrangements; the current arrangements for the other Victorian gas service providers; and the AER's recent decisions for Queensland and South Australia gas service providers access arrangements.
- The AER considers that the current form of rebalancing constraint in combination with the cost pass through provisions under the NGR, provides Multinet 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))

Multinet submitted that rebalancing controls on tariff structures should have consideration for the maintenance of cost-reflective levels and cost-reflective charging over time.[717] Multinet also stated that the rebalancing constraint should be used as the means by which cross–subsidisation between tariffs and tariff components is removed.[718] The AER acknowledges that increasing the rebalancing constraint would provide Multinet greater flexibility to change prices to adapt to shifting demand patterns. However, Multinet did not submit evidence that the current rebalancing constraint of two per cent has materially inhibited its ability to achieve cost reflective pricing. 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

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[714] Multinet, *Access arrangement proposal: Part B: - Reference Tariffs and Reference Tariff Policy*, 30 March 2012 p.39.

[715] Multinet, *Access arrangement information,* 30 March 2012, p. 214.

[716] NGL, s. 23

[717] Multinet, *Access arrangement proposal: Part B: - Reference Tariffs and Reference Tariff Policy* -30 March 2012 p.12.

[718] Multinet, *Access arrangement proposal:,Part B: - Reference Tariffs and Reference Tariff Policy* -30 March 2012 p.12.

reasonable degree of certainty and predictability. This view was also raised by AGL.[719] This is important for AGL in considering medium and long term contracts for consumers and its ability to manage the cost of providing services.[720] The AER considers that such outcomes are not inconsistent with the RPP.[721] The AER considers that cost reflectivity of reference tariffs can be better achieved by changing reference tariffs at the review of the access arrangement.

Effects of the reference tariff variation mechanism on administrative costs (rule 97(3)(b))

The AER considers 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 Multinet's current access arrangement.

Consistency between regulatory arrangements for similar services (rule 97(3)(d))

Multinet submitted that its proposed rebalancing constraint is less than what the AER allowed in the Jemena Gas Networks (NSW) decision.[722] The AER acknowledges that it determined a rebalancing constraint of 10 per cent for Jemena.[723] However, the AER revised its view on the magnitude of the rebalancing constraint in its revenue determination decision for the Victorian electricity DNSPs, setting a rebalancing constraint of two per cent.[724] This view was recently reaffirmed in the AER's decision on Envestra QLD and SA gas access arrangements.[725] The AER considers that it is desirable for Multinet's rebalancing constraint to be consistent with the rebalancing constraints in the recent access arrangements decided by the AER.

Other relevant factors 97(3)(e) - the NGO and RRP

Multinet submitted that an increase in the rebalancing constraint is required to protect it from declining average volumes and provides greater flexibility to respond to changing gas usage patterns.[726] As outlined above, the AER also considers that Multinet's proposed changes to the rebalancing constraint may create undue price volatility which is inconsistent with the NGO and the RPP.

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719 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012 , p. 2 - 3

720 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, p. 2 - 3

721 NGL, s. 24(3)(c).

722 Multinet, Access arrangement information, 30 March 2012, p.214-15

723 AER, *Final decision Jemena gas network access arrangement proposal for the NSW gas network 1 July 2010 to 30 June 2015*, June 2012, p.372.

724 AER, *Draft decision, Victorian distribution network service providers, Distribution determination, 2011–2015*, June 2010, p. 59–70; AER, *Final decision, Victorian distribution network service providers, Distribution determination, 2011–2015,* October 2010, p. 31–33, 40–57.

725 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.187.

726 Multinet, *Access arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy*, 30 March 2012 p.12.

For the above reasons, the AER does not approve the rebalancing constraint as proposed by Multinet. 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.

Other technical issues

The AER noticed inconsistencies in Multinet's proposed access arrangement proposal in respect of the definition of some variables of the tariff variation mechanism (p_t^{ij}, p_{t-1}^{ij}, and q_{t-2}^{ij}).[727] The AER sought clarification from Multinet as to what definition is appropriate.[728] In response, Multinet submitted that the correct definition for these variables (p_t^{ij}, p_{t-1}^{ij}, and q_{t-2}^{ij}) is that contained in page 34 of Multinet's proposed access arrangement.[729] Based on this information, the AER requires Multinet to amend its tariff variation mechanism formula as indicated in revision 1.7.

Ancillary reference services

The AER approves Multinet's proposed annual tariff variation formula for ancillary reference services. In accordance with r. 97(3)(c) of the NGR, the AER has taken into account the factor that the proposed formula is consistent with that of the current access arrangement in that it provides only for inflation adjustment.[730] The definition of CPI that Multinet proposed to use for the variation of ancillary reference services is similar to that of the haulage reference service tariff variation mechanism.[731] In attachment 1, the AER approved Multinet's proposed change to its ancillary services.

The AER approves Multinet's proposal to vary tariffs for ancillary reference services annually from the second year of the access arrangement period, that is, from 2014. The AER also approves Multinet's proposal not to apply the rebalancing constraint to ancillary reference service tariffs. In accordance with r. 97(3)(d) of the NGR, the AER has taken into account the fact Multinet's proposal not to apply the rebalancing constraint to ancillary reference service tariffs is consistent with the AER's recent decisions for gas access arrangements.[732] In addition, this aligns with the approach taken by Envestra and SP AusNet.

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727 Multinet, Access *arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy*, p.34, 35, 36 and 39

728 Multinet, AER information request 12 of 6 June 2012.

729 Multinet, Response to AER information request 12 of 6 June 2012.

730 Multinet, Access *arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy* 30 March 2012 p.10.

731 Multinet, Access *arrangement proposal:, Part A: - Principal Arrangements* 30 March 2012 p.16

732 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.

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 related opex forecasts. Multinet 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

11.4.2 Cost pass through tariff variation mechanism

The AER does not approve Multinet's proposed cost pass through mechanism. Specifically, the AER does not approve:

- The carbon tax tariff adjustment
- The inclusion of a Force Majeure Event and Financial Failure of a Retailer Event in the definition of a Relevant Pass Through Event
- The definition of an Insurance Cap Event.
- The proposed approach for the notification and approval of cost pass through events.

The AER also requires the inclusion of a materiality threshold of 1 per cent of annual smoothed revenue. The reasons for the AER's decision are further discussed below.

Carbon tax

The AER understands that to recover its carbon tax costs for the 2013–17 access arrangement period, Multinet proposed to:

- include an opex allowance made up of the costs of administering the carbon tax scheme[733]
- set a separate carbon tax tariff intended to recover its carbon tax liability costs with a true up mechanism each year.[734]

Multinet 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 Multinet only recovers the actual costs of the carbon liability, taking into account the time value of money. This true-up mechanism incorporates two steps:

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[733] Multinet, *Access arrangement information*, 30 March 2012, p.22.
[734] Multinet, *Access arrangement information*, 30 March 2012, p.22 and 215.

- a first reference tariff adjustment in the regulatory year after costs are incurred
- a second adjustment in the second year after costs are incurred.[735]

Multinet's two stage true–up process is driven by the timing of carbon unit acquittal under the framework established by the Clean Energy Legislative Package. Liable entities may not know their final actual carbon unit costs until up to eight months after the end of the regulatory year to which they relate. As proposed by Multinet, the first true–up would be undertaken using 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. 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 Multinet's proposed carbon cost opex allowance (attachment 6). The AER also approves Multinet's proposal to set a separate carbon tariff with a true up mechanism. When assessing Multinet's proposed tariffs, the AER will also assess whether the expected revenue from carbon tariffs is less than or equal to the maximum carbon tariff revenue allowed.

The AER does not approve Multinet's proposed two stage carbon cost true–up mechanism. The AER considers that a single true–up, undertaken when full actual carbon costs for a regulatory year are known, reduces complexity and is preferred to the proposed two stage true–up.

The AER 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 Multinet 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.

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.[736]

The AER is required 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

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[735] Multinet, *Access arrangement information*, 30 March 2012, pp.37–38.
[736] NGR, r. 40(3).

the factors 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.[737]

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 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.[738] 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

[737] NGR, r. 100.

[738] Victorian Electricity Distribution Network Service Provider's Draft Decision, 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.[739]

The AER has had regard to these criteria in assessing Multinet's proposed cost pass through events against the NGO. However, the AER has not applied the criteria strictly and has departed from them where it considers it necessary to better promote the NGO.

Multinet has included a number of new cost pass through events in its access arrangement proposal. These events are largely consistent with recent AER decisions.[740] Multinet explains that the new cost pass through events are adopted from either the AER's recent determination for Multinet's electricity distribution network, or cost pass through events specified in the National Electricity Rules.[741]

The AER considers that the cost pass through events in Multinet*'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 Multinet's *proposed* cost pass through events meet the criteria outlined above and are needed to provide Multinet with sufficient cover. The AER does not approve two of Multinet'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 Multinet'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 of the NGL and the NGR, as well as the national gas objective and the revenue and pricing principles.[742]

Where the AER requires the definition of a cost pass through event to be revised, the revised definition is set out in section 1.6 below.

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739 Victorian Electricity Distribution Network Service Provider's Draft Decision, p 716.

740 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.

741 Multinet, *Access arrangement information*, 30 March 2012, p. 211.

742 NGL, s. 23 and s. 24 respectively.

Change in Taxes Event

Multinet proposed the following definition for this event:

> Change in Taxes Event means a variation, 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.

This event is carried over from Multinet's current access arrangement. The definition of a change in taxes event in Multinet's current and proposed access arrangements differs, however, from the definition approved by the AER in recent access arrangement decisions.[743]

For the reasons set out below, the AER does not approve Multinet's proposed change in taxes event. The AER requires Multinet 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, Multinet'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,[744] all of which are limited to costs.

Financial Failure of a Retailer Event

Multinet 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.

This cost pass through event is carried over from Multinet'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.The AER considers that Multinet is capable of mitigating this risk by agreeing to appropriate prudential requirements with users. Multinet has

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[743] See, eg, AER, Draft Decision: APT Pipeline Pty Ltd Roma to Brisbane Pipeline, April 2012; AER, Draft decision: N.T. Gas access arrangement, April 2011; AER, Draft decision: Envestra LTD: Access arrangement proposal for the Qld gas network 2011-2016, February 2011; AER, Draft decision: Envestra Ltd: Access arrangement proposal for the SA gas network 2011-2016, February 2011.

[744] Multinet, *Gas Access arrangement proposal: Part A-Principal arrangements*, 2013-2017, p. 15.

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 Multinet with adequate protection against the risk of a retailer failing.

Force Majeure Event

Multinet proposed the following definition for this event:

> Force Majeure Event means an event beyond the reasonable control of a person which causes a delay in performance, or non-performance, by that person of an obligation and includes:
>
> (a) an Emergency;
>
> (b) a Participant force majeure event or System force majeure event as defined in Part 19 of the NGR;
>
> (c) an event consisting of, or analogous to, the issue of a direction under section 106 or section 107 of the Gas Safety Act 1997 (Vic);
>
> (d) an event consisting of, or analogous to, an act of nature, governmental intervention or act of war, neither anticipated nor controllable by the Service Provider.

Multinet's current access arrangement does not include a force majeure event. Multinet's proposed definition of a force majeure event refers to an event beyond a person's control that causes a delay in the performance or non-performance of an obligation and is non exhaustive.

The AER does not approve the inclusion of Multinet's proposed Force Majeure Event in its cost pass through mechanism on the basis that it is not sufficiently specific and is not defined with reference to a material increase or decrease in costs to the service provider.

The AER considers that in order to be consistent with the NGO, a cost pass through event must be sufficiently specific so as to limit the scope of its application and to provide adequate certainty to affected parties. Multinet's proposed definition of a force majeure event is not exhaustive, and therefore would encompass any event beyond the Service Provider's control which causes a delay in the performance or non-performance of an obligation. Multinet's proposed definition of a force majeure event refers to a 'person' rather than the 'Service Provider', which further broadens the scope of its application.[745] The AER considers that a cost pass through event should be defined by reference to its effect on the Service Provider.

Furthermore, Multinet's proposed definition of a Force Majeure Event does not require that there be a material increase or decrease in costs to the Service Provider. As stated above, the rationale for the inclusion of a cost pass through mechanism is to enable service providers to pass on to users a material increase (or decrease) in costs that occur during a regulatory control period.. A cost pass through event must therefore be defined with reference to a material increase of decrease in costs to the service provider.

The AER considers that Multinet's rationale for proposing this event could be more appropriately achieved through the inclusion of a Terrorism Event and a Natural Disaster Event. These pass through events are more specific and are defined with reference to a

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[745] Multinet, *Access arrangement proposal,* 30 March 2012, p. 19.

material increase in costs to the Service Provider. They are also consistent with pass through events approved by the AER in recent decisions.[746] On this basis, the AER considers that the inclusion of a Terrorism Event and a Natural Disaster Event are more consistent with the requirements of the NGR and the NGO.

National Energy Customer Framework Event

The AER requires Multinet 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, Multinet 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.[747] Multinet'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 Multinet 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 Multinet's proposed step change reflects expenditure that would be incurred by a prudent and efficient service provider. The AER therefore does not accept Multinet'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 Multinet 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 Multinet'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 Multinet 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 Multinet's control—the AER considers it appropriate to allow Multinet to pass through costs associated

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[746] See, eg, AER, Draft Decision: APT Pipeline Pty Ltd Roma to Brisbane Pipeline, April 2012; AER, Draft decision: N.T. Gas access arrangement, April 2011; AER, Draft decision: Envestra LTD: Access arrangement proposal for the Qld gas network 2011-2016, February 2011; AER, Draft decision: Envestra Ltd: Access arrangement proposal for the SA gas network 2011-2016, February 2011.

[747] *Multinet, Access arrangement information*, 30 March 2012, p. 151.

with the commencement of NECF in Victoria, without the additional criteria that those costs be material.

The AER requires Multinet to revise its access arrangement proposal to include 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 Multinet 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 Multinet 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, Multinet 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.[748] The AER does not approve Multinet's proposed capital expenditure and considers that the volume of mains replacement proposed by Multinet 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 Multinet should be afforded sufficient flexibility to respond to changing conditions, including in the market, which may require Multinet 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 Multinet's pass through tariff variation mechanism to cover mains replacement. This event will allow Multinet 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 Multinet's initial access

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[748] Multinet, *Access arrangement information*, 30 March 2012, pp. 102–109.

arrangement proposal. Any costs that Multinet 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.

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 Multinet 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 Multinet to revise its access arrangement proposal to include the following definition of a Mains Replacement Event:

> A Mains Replacement Event means an event whereby Multinet 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 Multinet 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 Multinet 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 Multinet 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.

Insurance Cap Event

Multinet proposed the following definition for this event:

> Insurance Cap Event means an event that would be covered by an insurance policy but for the amount that materially exceeds the policy limit, and as a result Multinet must bear the amount of that excess loss. For the purposes of this Cost Pass Through Event, the relevant policy limit is the greater of the actual limit from time to time and the limit under Multinet's insurance cover at the time of making this Access Arrangement. This event excludes all costs incurred beyond an insurance cap that are due to Multinet's negligence, fault, unlawful conduct or lack of care.

An insurance cap 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.

Multinet's current access arrangement does not include an Insurance Cap Event or any event analogous to the proposed Insurance Cap Event.

The AER requires the definition of an Insurance Cap 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 Multinet'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.

Multinet 's base forecast operating expenditure allowance includes a component for insurance coverage. There is an expectation that Multinet will expend that component to obtain an efficient level of insurance coverage, but the AER cannot compel Multinet to actually do this.

This raises the risk that Multinet 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 Multinet 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 Multinet to amend the definition of an Insurance Event in its access arrangement proposal as follows:

> An Insurance Event means an event whereby:
>
> (a) Multinet makes a claim on a relevant insurance policy;
>
> (b) Multinet incurs costs beyond the relevant policy limit; and
>
> (c) The costs beyond the relevant policy limit materially increase the costs to Multinet of providing reference services.
>
> For the purposes of this Insurance Event:
>
> (d) The relevant policy limit is the greater of Multinet'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 Multinet'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 Multinet'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 Multinet'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 Multinet's decisions, actions and omissions in relation to the risk of a pass through event, including whether Multinet 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 Multinet, 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 Multinet's control.

The AER considers that this will incentivise Multinet 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.[749] 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 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

Multinet did not include a materiality threshold in its access arrangement proposal.[750] In its access arrangement information, however, Multinet proposed a materiality threshold of $100,000 per event to account for administration costs of developing and reviewing the pass through events.[751]

The AER does not accept Multinet's proposed materiality threshold of $100,000. Cost pass through events should provide service providers and other stakeholders with sufficient protection against unexpected and uncontrollable risks. It is not intended to recover all costs that a business would otherwise be expected to absorb. The AER considers that a materiality threshold of $100,000 removes the incentive for Multinet to mitigate the risk and costs of a cost pass through event. The AER considers this would disproportionately burden end users with risk.

The AER considers that a materiality threshold of one per cent better accommodates the efficiency incentives required under the regulatory regime, and better satisfies the NGO and the revenue and pricing principles under the NGL.[752]

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749 Multinet proposed to exclude negligence from its Insurance Cap Event.
750 Multinet, *Access arrangement information*, 30 March 2012, p.220.
751 Multinet, Gas *Access arrangement information*, 30 March 2012, p.221.
752 NGL, ss 24.

The Australian Completion Tribunal recently upheld the AER's exercise of its discretion in relation to setting the materiality threshold for the Victorian electricity DNSPs at one percent of the smoothed forecast revenue.[753]

Multinet's cost pass through events have not previously been subject to a specific materiality threshold.[754] However, the AER considers a defined materiality threshold better serves the long term interests of energy stakeholders by providing greater certainty and consistency for Multinet and its customers.

11.4.3 Procedures 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.[755]

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.

The AER considers that the Reference Tariff Policy must be amended as set out in revision 1.9

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753 Application by United Energy Distribution Pty Limited [2012] ACompT 1 (6 January 2012)

754 See Multinet's 2008 access arrangement.

755 NGR, r. 97(4).

Annual and Within-Year Variations

Multinet proposed to notify the AER in respect of any reference tariff variations at least 35 business days prior to the implementation.[756] 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. In accordance with r. 97(3)(d) of the NGR, the AER has taken into the factor that this approach is consistent with the AER's recent decision on gas access arrangements.[757]

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 Multinet's access arrangement must be amended as outlined in revision 1.8. This is consistent with the AER's recent decisions on gas access arrangement.[758]

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 Multinet 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.[759] 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 Multinet to amend its access arrangement proposal as outlined in revision 1.8

Based on the above reasons, the AER does not approve the proposed annual tariff reference variation process as proposed by Multinet for the 2013–17 access arrangement period. Multinet is required to amend its proposed reference tariff variation process as outlined in the revisions section of this attachment before it can be approved.

Cost pass through variation mechanism

Multinet'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.

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

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[756] Multinet, Gas Access *arrangement proposal:, Part B: - Reference Tariffs and Reference Tariff Policy* 30 March 2012 p.14.

[757] 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.

[758] 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.

[759] NGR, r. 97(3)(e).

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 cost pass through event occurring, regardless of whether the event would result in a positive or negative impact on tariffs. The AER considers it should notify Multinet 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 Multinet 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 Multinet 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 Cap Event definition. The AER considers that this is consistent with the NGR and NGO.

11.5 Revisions

Before the access arrangement be approved, Envestra must make the following revisions.

Revision 11.1: Amend Schedule 1 of the access arrangement proposal to include the following statement before "Haulage reference tariff – residential" (page 26):

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 11.2: Amend Schedule 1 of the access arrangement proposal as follows:

Delete all the tables in Schedule 1 and replace them with the following updated tables

Table 11.1 Multinet - Haulage Reference Tariffs - Metropolitan Zone

Tariff V Residential				
	Distribution Fixed Tariff Component	**$0.1324**		
Consumption Range (GJ/day)	**Off peak period ($/GJ)**	**Peak period ($/GJ)**	**May shoulder period ($/GJ)**	**October shoulder period ($/GJ)**
0-0.05	5.0251	5.9110	5.6161	5.6161

> 0.05 - 0.1	3.5936	4.2278	4.0164	4.0164
> 0.1 - 0.15	1.8586	2.1857	2.0772	2.0772
> 0.15-0.25	0.9403	1.1062	1.0509	1.0509
> 0.25	0.7072	0.8210	0.7903	0.7903

Tariff V Non-residential

Distribution Fixed Tariff Component **$0.2175**

Consumption Range (GJ/day)	Off peak period ($/GJ)	Peak period ($/GJ)	May shoulder period ($/GJ)	October shoulder period ($/GJ)
0-0.05	2.2365	2.6847	2.4661	2.4661
> 0.05 - 0.1	1.4781	1.7007	1.5306	1.5306
> 0.1 - 0.15	0.8847	1.0205	0.9694	0.9694
> 0.15-0.25	0.5362	0.5679	0.5534	0.5534
> 0.25	0.1515	0.1896	0.1705	0.1705

Tariff D

MHQ (GJ/hr)	Tariff ($/MHQ per day)
0-50	418.6587
> 50	71.2311

Table 11.2 Multinet - Haulage Reference Tariffs - Yarra Valley Towns Zone

Tariff V Residential

Distribution Fixed Tariff Component **$0.1324**

Consumption Range (GJ/day)	Off peak period ($/GJ)	Peak period ($/GJ)	May shoulder period ($/GJ)	October shoulder period ($/GJ)
0-0.05	7.4906	8.3256	8.0472	8.0472
> 0.05 - 0.1	6.1426	6.7398	6.5408	6.5408
> 0.1 - 0.15	4.5087	4.8176	4.7147	4.7147
> 0.15-0.25	3.6440	3.8003	3.7482	3.7482
> 0.25	3.4244	3.5419	3.5027	3.5027

Tariff V Non-residential

Distribution Fixed Tariff Component **$0.2175**

Consumption Range (GJ/day)	Off peak period ($/GJ)	Peak period ($/GJ)	May shoulder period ($/GJ)	October shoulder period ($/GJ)
0-0.05	4.9195	5.3551	5.1414	5.1414
> 0.05 - 0.1	4.1867	4.4018	4.2375	4.2375

> 0.1 - 0.15	3.6133	3.7445	3.6952	3.6952
> 0.15-0.25	3.2765	3.3073	3.2931	3.2931
> 0.25	2.9048	2.9416	2.9232	2.9232

Table 11.3 Multinet - Haulage Reference Tariffs - Gippsland Towns Zone

Tariff V Residential

Distribution Fixed Tariff Component **$0.1324**

Consumption Range (GJ/day)	Off peak period ($/GJ)	Peak period ($/GJ)	May shoulder period ($/GJ)	October shoulder period ($/GJ)
0-0.05	8.1742	9.0610	8.7653	8.7653
> 0.05 - 0.1	6.7428	7.3769	7.1656	7.1656
> 0.1 - 0.15	5.0077	5.3357	5.2264	5.2264
> 0.15-0.25	4.0893	4.2554	4.2001	4.2001
> 0.25	3.8561	3.9810	3.9394	3.9394

Tariff V Non-residential

Distribution Fixed Tariff Component **$0.2231**

Consumption Range (GJ/day)	Off peak period ($/GJ)	Peak period ($/GJ)	May shoulder period ($/GJ)	October shoulder period ($/GJ)
0-0.05	5.4439	5.9065	5.6796	5.6796
> 0.05 - 0.1	4.6657	4.8941	4.7196	4.7196
> 0.1 - 0.15	4.0568	4.1962	4.1438	4.1438
> 0.15-0.25	3.6992	3.7318	3.7168	3.7168
> 0.25	3.3044	3.3435	3.3240	3.3240

Tariff D

MHQ (GJ/hr)	Tariff ($/GJ per day)
0-50	537.0289
> 50	91.3654

Table 11.4 Multinet - Haulage Reference Tariff L - All Zones

Tariff L				
Rolling maximum demand ($/MHQ per day)				0.4170
Peak maximum demand ($/MHQ per day)				1.2475
Volume Tariff Component				
Consumption Range	Off peak period	Peak period	May shoulder period	October shoulder period

(GJ/day)	($/GJ)	($/GJ)	($/GJ)	($/GJ)
< 5	0.3154	0.4484	0.3976	0.3976
> 5	0.0717	0.0962	0.0904	0.0904

Revision 11.3: Amend Part B: Appendix 2–tariff control formula of the access arrangement proposal as follows:

- Delete Yt = 0.05 in the rebalancing control formula (formula 5) and replace with and replace it with Yt = 0.02.

- Delete the definition of Xt in the rebalancing control formula (formula 5) and replace with:

Xt 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:

Xt =23.50% for the Calender year 2013

Xt =0.00% for the Calender year 2014 to 2017

Revision 11.4: Amend Part B: Appendix 1–tariff control formula of the access arrangement proposal as follows:

- Delete the definition of Xt in formula 1 to 3 and replace with:

Xt 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:

Xt =23.50% for the Calender year 2013

Xt =0.00% for the Calender year 2014 to 2017

Revision 11.5: Amend Part B: Appendix 1–tariff control formula of the access arrangement proposal as follows:

- Delete "pre-tax WACC is 7.24%, being the implied real pre tax WACC applying to the service provider" on pages 35 and 36 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 5.50 per cent

- Delete "pre-tax WACC is 7.24%" on pages 37 and 38 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 5.50 per cent

Revision 1.6: Amend Part B: Appendix 1 of the access arrangement proposal (formula 4) as follows:

- Delete formula 4 and replace with:

When assessing Multinet'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 Multinet'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 Multinet's maximum carbon tariff revenue 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 Multinet 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 Multinet 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 Multinet 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 1.7: Amend Part B: Appendix 1 and Appendix 2 of the access arrangement proposal as follows:

- Delete p_t^{ij}, p_{t-1}^{ij} and q_{t-2}^{ij} on pages 35, 36 and 39 and replace with:

p_t^{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 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 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:

Revision 11.9: Amend the Glossary in Schedule 2 of Part A of the access arrangement proposal as follows:

Delete the definition of Relevant Pass Through Event and replace it with the following:

Relevant Pass Through Event means:

(a) Change in Taxes Event;

(b) Declared Retailer of Last Resort Event;

(c) Insurer Credit Risk Event;

(d) Insurance Cap Event;

(e) Regulatory Change Event;

(f) Service Standard Event;

(g) Terrorism Event;

(h) Natural Disaster Event

(i) National Energy Customer Framework Event

(j) Mains Replacement Event

Delete the definition of Financial Failure of a Retailer Event.

Delete the definition of Force Majeure event.

Delete the definition of Change In Taxes Event and replace it with following:

A Change in Taxes Event means:

(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 Multinet of providing reference services are materially increased or decreased.

A relevant tax is any tax payable by Multinet, 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 Cap Event and replace it with the following:

Delete the definition of an Insurance Cap Event and replace it with the following:

An Insurance Cap Event means an event whereby:

(a) Multinet makes a claim on a relevant insurance policy;

(b) Multinet incurs costs beyond the relevant policy limit; and

(c) The costs beyond the relevant policy limit materially increase the costs to Multinet of providing reference services.

For the purposes of this Insurance Event:

(d) The relevant policy limit is the greater of Multinet'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 Multinet'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 Natural Disaster Event:

Any major fire, flood, earthquake or other natural disaster beyond the control of the Service Provider (but excluding those events for which external insurance or self insurance has been included within the Service Providers forecast operating expenditure) that occurs during the access arrangement period and materially increases the costs to the Service Provider of providing Reference Services.

Insert the following definition of Terrorism Event:

An act (including but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), occurring during the access arrangement period, which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and or put the public, or any section of the public, in fear) and which materially increases the costs to the Service Provider of providing a Reference Service.

Insert the following definition of National Energy Customer Framework Event:

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 Multinet 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 Multinet 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 Multinet 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 Multinet in its initial access arrangement proposal for that period.

For the purposes of this Mains Replacement Event:

(c) Adjusted Historical Volumes means 240 km being the average annual volume of mains replacement completed by Multinet 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 the following definition of material:

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.

Revision 11.10: 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

Multinet 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, Multinet will provide the AER with a statement, signed by an authorised officer of Multinet, 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 Multinet 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 Multinet, 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 Multinet of the extension, and its duration, within 90 business days of receiving a notification from Multinet.

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 Multinet's decisions and actions in relation to the risk of the Relevant Pass Through Event occurring, including whether Multinet 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 Multinet 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

Multinet'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 Multinet 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 Multinet's access arrangement proposal 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.[760]

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 Multinet's proposed terms and conditions and requires a number of amendments to be made.

12.1.2 Access arrangement proposal

Multinet's terms and conditions are set out in Part C of its proposed access arrangement. Multinet stated that, in amending the default terms and conditions, it engaged with Users directly to inform itself of any User concerns and, where possible, sought to accommodate those views.[761] Multinet submitted that as a general rule, where agreement between Users was either unclear or not forthcoming, Multinet has not made changes to its default set of terms and conditions. Multinet remains prepared to negotiate individual terms and conditions with Users that reflect individual circumstances.

The key issues and proposed material changes to Multinet's current terms and conditions relate to:[762]

- changes related to the introduction of NECF
- updates to reflect other changes to legislation since the previous access arrangement review
- changes to bring the Victorian access arrangement into line with those in other States
- substantive corrections to substantive parts of the terms
- minor drafting corrections.

12.1.3 Assessment approach

Non-tariff components must be consistent with the NGO.[763] But, otherwise, the AER has full discretion in dealing with them.[764] The AER has considered whether each term of Multinet's access arrangement proposal is consistent with the NGO.[765] 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 cost's risk, which can ultimately lead to greater efficiency and lower prices.

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761 Multinet, *Access arrangement information*, 30 March 2012, p. 187.
762 Multinet, *Access arrangement information*, 30 March 2012, p. 243.
763 NGR, r. 100.
764 NGR, r. 40(3).
765 NGL., s. 23; NGR, r. 100.

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 ultimately 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.[766] The AER 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 Multinet 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 Multinet has proposed are necessary for there to be a clear, effective and legally certain agreement between Multinet 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. Appendix 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.

[766] NGL, ss. 181, 184 & 189.

National Energy Customer Framework

The AER accepts the approach taken by Multinet to draft its proposed terms and conditions to cater for any delay in the implementation of the National Energy Customer Framework (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).[767] The Victorian Government has deferred the adoption and implementation of NECF and these parts are not yet operative in Victoria.

The AER agrees with the approach taken by Multinet 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 Origin[768] and APG[769] 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.[770]

The AER considers that it would not be appropriate to require Multinet to implement NECF as though it had been adopted in Victoria. This is because the Victorian government has made a decision to delay its adoption. For the AER to require Multinet 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 that Government's decision.

Application of Terms and Conditions

The AER does not accept clause 5.3.1 of Part A of Multinet's terms and conditions. The AER requires Multinet to amend clause 5.3.1 in accordance with Revision 12.1.

Multinet 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

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767 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.

768 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 2.

769 Australian power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 1.

770 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

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 Multinet to 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.[771] 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, an aspect of the NGO.

The AER requires Multinet 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 Multinet's terms and conditions, but requires an additional clause be included in accordance with Revision 12.2.

Clause 4.4(c) operates so that Multinet 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, Multinet 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 Multinet permitting it to take steps to protect the integrity of the Network is consistent with the NGO

[771] 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'.

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 Multinet 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 Multinet to inform the User when it takes these actions and that this is consistent with the NGO.

The AER's decision is supported by AGL's submission, which suggests that an obligation be placed on Multinet to notify the User as soon as reasonably practicable if Multinet becomes aware that gas that does not meet the Specifications may be delivered to a delivery point.[772]

Further submissions on this clause and the AER's view of the arguments put forward are set out in Appendix D

The AER requires Multinet 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 Multinet's terms and conditions. The AER requires Multinet to amend clause 4.7(c) in accordance with Revision 12.3.

Clause 4.7(c) of Multinet's current access arrangement contains an obligation on the User to ensure that gas injected into the Distribution System complies with the Specifications. Multinet 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 requirements above accepted standards are ambiguous and will be difficult to assess. This ambiguity creates additional risk to the User, which does not promote efficient investment in and operation of the Network, an aspect of the NGO.

Further, the AER considers that an obligation to ensure that gas complies with the Specifications provides Multinet 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 has taken 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

[772] AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

'deleterious to the Distribution System') and has no control over this as upstream producers/pipeliners will not agree to obligations over the standard Specifications.[773]

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 cl. 4.7(c) to the extent that the User can avoid or mitigate the identified risk, is 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 Multinet 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 Multinet's terms and conditions. The AER requires Multinet 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 [Multinet] considers appropriate having regard to the relevant circumstances known to it'. This consideration of what Multinet 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, an aspect of the NGO. The AER's decision has taken into account AGL's submission that Multinet should not have an unfettered

[773] AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

discretion as to the order of curtailment, interruption and disconnection and at a minimum, it should be required to act reasonably.[774]

The AER requires Multinet 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 Multinet's terms and conditions. The AER requires Multinet to amend clause 7.1(b) in accordance with Revision 12.5.

Clause 7.1(b) provides that a User doesn't 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.[775] 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 Multinet has chosen to adopt clauses from proposed regulations, it is not consistent with the NGO 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.[776]

For the reasons outlined in Appendix 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 Multinet 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.'

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774 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

775 Multinet, *Access arrangement information*, 30 March 2012, p.257.

776 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

Distribution Services – Invoicing, Payment and Interest

The AER does not accept clause 7.4(g) of Multinet's terms and conditions. The AER requires Multinet 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.

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 Multinet's gas services, an aspect of the NGO.

The AER's decision has taken 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.[777]

Further submissions on this clause and the AER's view of the arguments put forward are set out in Appendix D.

The AER requires Multinet 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 Multinet's terms and conditions. The AER requires Multinet 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,[778] and it is generally unnecessary that this notification be made by a distributor to a retail business.[779]

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[777] Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5-6.

[778] NERR, r. 84.

[779] Multinet, *Access arrangement information*, 30 March 2012, p. 258.

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 has taken into account APG[780] and AGL's[781] submissions which both suggested the reinsertion of clause 7.6(d).

The AER requires Multinet to amend clause 7.6(d) 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.

Provision of information concerning Class A Inquiries, Class B Inquiries and Class C Inquiries

The AER does not accept cl. 9.2(c) or cl. 9.2(d) of Multinet's terms and conditions. The AER requires Multinet to amend cl. 9.2(c) in accordance with Revision 8, and cl. 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 cl. 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 cl. 9.2(a), and the Service Provider elects to do so by publishing the information on its website in accordance with cl. 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.

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780 Australian power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.

781 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

The AER considers that cl. 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 cl. 9.2(a), or is not able to access the information in a timely manner. It would also be inconsistent with the intent behind cl. 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 inquires relating to the Distribution System, is made available to Users, who can in turn make the information available to customers.

The AER's decision has taken into account APG's submission, which stated that cl. 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.

The AER requires Multinet to amend clause 9.2(c) as follows:

- 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 will promote the efficient operation of natural gas services.

The AER's decision has taken into account Multinet's submission, which proposed the inclusion of the additional qualification as an alternative means of addressing Origin's concerns about clause 9.2(d). In its submission, Origin stated that the words 'as required under a relevant Regulatory Instrument' should be removed from cl. 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.

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.

The AER requires Multinet 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 cl. 9.5(k) of Multinet's terms and conditions. The AER requires Multinet to amend cl. 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.

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 has taken into account Multinet's submission, which stated that it was amenable to amending clause 9.5(k) to be consistent with the GIP. 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.

The AER requires Multinet 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 cl. 9.10 of Multinet's terms and conditions. The AER requires Multinet to amend cl. 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 has taken into account Multinet's submission in response to AGL's concerns about cl. 9.2(d). Multinet 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.

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. 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

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 Multinet to replace cl 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 Multinet's terms and conditions. The AER requires Multinet to amend clause 10.3(b) in accordance with Revision 12.12.

The AER considers that where a r. 100[782] 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 Multinet 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 cl. 11.2(c) of Multinet's terms and conditions. The AER requires Multinet to amend cl. 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

[782] NERR, r.100.

order of an Authority or where relevant Regulatory Instruments require or allow the Disconnection.

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 has taken into account APG's submission, which proposed the same amendment to clause 12.2(c). It is also supported by Mulitnet's submission in response to APG's proposed amendment.

The AER requires Multinet to amend cl. 12.2(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 cl. 13.5(c) of Multinet's terms and conditions. The AER requires Multinet to delete cl. 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 Multinet'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 cl. 13.5(c) would allow Multinet to circumvent the operation of r. 508(1) in anticipation of the commencement of NECF, by requiring the User to 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 has taken into account AGL and Origin's submissions, which proposed deleting cl. 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. 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.

Multinet was not amenable to amending clause 13.5(c). Multinet 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. In response to Origin and AGL's submissions, Multinet 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. Multinet 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 Multinet'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 Multinet'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 Multinet to delete cl. 13.5(c).

Exemption of liability

The AER does not accept cl. 13.6(a) of Multinet's terms and conditions. The AER requires Multinet to amend cl. 13.6(a) in accordance with Revision 12.15.

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 cl. 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. Multinet also stated that it was amenable to this aspect of the proposed revision to cl. 13.6(a).

The AER requires Multinet to replace cl. 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 Multinet's terms and conditions. The AER requires Multinet to delete 19.2(b) in accordance with Revision 16, and amend clause 19.2(c) in accordance with Revision 12.16.

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. Multinet'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 Multinet 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.[783]

The AER does not consider that clause 19.2(c) allows Multinet 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 Multinet to amend clause 19.2(c) as follows:

- Replace 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.

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.[784] 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.[785] 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.[786]

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783 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

784 NGR, r. 105(2).

785 NGR, r. 48(1)(f).

786 NGR, r. 105(2).

12.2.1 AER decision

To ensure that the access arrangement is consistent with the NGR, the AER requires Multinet 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 Multinet to amend cl. 5.4 of its proposed access arrangement in accordance with revision 12.17.

12.2.2 Access arrangement proposal

Multinet's proposal states that it is a registered participant in the Victorian Gas Market and the capacity in the distribution system will be managed in accordance with the NGR and procedures governing that market.[787]

12.2.3 Assessment approach

The AER has assessed Multinet's capacity trading requirements against the NGO 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 Multinet's distribution network). This is different to most Australian gas markets, which are based on bilateral arrangements between producers, major users and retailers linked together through pipeline hubs connecting gas fields to gas consumers.[788]

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.[789] Under this model, Victorian gas networks (including Multinet'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.[790]

Capacity trading is therefore not applicable to Multinet's network.

Despite the practical situation, the NGR require that the access arrangement include capacity trading requirements. The AER considers that Multinet's access arrangement may meet this requirement by specifying that there are no applicable capacity trading requirements.

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787 Multinet, *Access arrangement proposal: Part A Principal Arrangements*, 30 March 2012, clause 5.4.

788 This model is sometimes referred to as a contract carriage model.

789 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.

790 In accordance with the rules in Part 19 of the NGR.

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.[791] 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 Multinet'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 the 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.[792] 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 prospective users (whether associates of, or unrelated to, the service provider) are treated on a fair and equal basis.[793]

12.3.1 AER decision

The AER accepts Multinet's proposal in so far as it does not include queuing requirements.

12.3.2 Access arrangement proposal

Multinet's access arrangement proposal did not include any reference to queuing requirements.

12.3.3 Assessment approach

The AER has assessed Multinet'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 Multinet's distribution pipeline is managed by AEMO under Part 19 of the NGR, queuing arrangements are not applicable.

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[791] NGL, s. 2.

[792] NGR, r. 103(1)(b). Clause 14.2 of the Regulation Information Notice issued by the AER to Multinet on the 13 February 2012, notified Multinet that its access arrangement proposal must provide details of its queuing arrangements.

[793] NGR, 103(2).

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.[794] 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.[795]

Extension and expansion requirements must be included in an access arrangement.[796] 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 expansion of the capacity of, the pipeline or outline how may be dealt with at a later time.[797] 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.[798]

12.4.1 AER decision

The AER does not accept Multinet's extensions/expansions policy. The AER requires Multinet to amend its proposal so that all low and medium pressure pipelines are covered by the access arrangement by default. Whenever Multinet 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

Multinet'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 Multinet. 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 apply to the incremental reference service; or
- where the extension is not a significant extension (services less than 5000 customers), and the AER agrees

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794 NGR, r. 104(1).
795 NGR, r. 104(2).
796 NGR, r. 48(1)(g).
797 NGR, r. 104(1).
798 NGR, r. 104(2).

unless the extension was included in the calculation of the reference tariffs.[799]

Clause 5.5.2 of SP Multinet's access arrangement proposal describes the effect of an extension or expansion on reference tariffs. Clause 5.5.3 describes Multinet'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 Multinet'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 Multinet's proposed extensions and expansions policy.

In particular, the AER does not accept Multinet's proposal that the access arrangement does not apply to 'significant extensions' where Multinet has given written notice to the AER before the extension comes into service 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.[800] 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.

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799 Multinet *Access Arrangement proposal: Part A–Principal arrangements*, 30 March 2012, clause 5.5.1.

800 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.

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.[801] 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 Multinet notify the AER where it proposes to build a high pressure extension to its network; and
- 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 Multinet'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. 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.[802] 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 Multinet'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 arrangement. 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.

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801 NGL, s. 23.
802 NGL, s. 23.

Effect of extension / expansion on reference tariffs

The AER proposes to accept Multinet's proposal in relation to the effect of an extension / expansion on reference tariffs as 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.[803] 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.[804] 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 must not allow a service provider to withhold its consent unless it has reasonable grounds, based on technical or commercial considerations, for doing so.[805] The access arrangement may specify conditions under which consent will or will not be given to be complied with if consent is given.[806]

12.5.1 AER decision

The AER does not accept Multinet's proposal in relation to changing receipt / delivery points. The AER requires Multinet to amend clauses 5.4.2 and 5.4.3 to state that it will not withhold its consent for a transfer unless it has reasonable grounds, based on technical or commercial considerations for doing so.

12.5.2 Access arrangement proposal

Multinet's access arrangement proposal states that:

- A user may, with Multinet's consent, and on condition that the user has the prior approval as may be required of, AEMO and the transmission pipeline owner or operator (as applicable), change a transfer point.[807]
- A user may, with the service provider's consent, and condition of compliance with Part 12A of the NGR, change a distribution supply point.[808]

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803 NGR, r. 3.

804 NGR, r. 48(h).

805 NGR, r. 106(1).

806 NGR, r. 106. (2).

807 Multinet, *Access arrangement proposal, Part A - Principal Arrangements*, 30 March 2012, clause 5.4.2. Multinet's proposal defines a 'transfer point' as a transmission pipeline to a distribution pipeline or distribution pipeline to a distribution pipeline.

808 Multinet, *Access arrangement proposal, part A - Principal Arrangements*, 30 March 2012,clause 5.4.3. Multinet's proposal defines a 'distribution supply point' as a point on the distribution system at which gas is capable of being withdrawn from the distribution system for delivery to a customer, which is normally located at the outlet of a meter and includes a 'supply point' and an 'ancillary supply point' as defined in the Gas Industry (Residual Provisions) Act 1994 (Vic) in relation to a distribution system.

12.5.3 Assessment approach

The AER has assessed Multinet'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 than 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.[809]

Multinet's proposal allows users to change receipt / delivery points but does not state that Multinet will not Multinet will not withhold its consent unless it has reasonable grounds, based on technical or commercial considerations for doing so. The AER considers this is may not be consistent with r. 106 of the NGR. Therefore, the AER requires Multinet to amend its proposal to state that it will not withhold its consent unless it has reasonable grounds, based on technical or commercial considerations for doing so.

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:[810]

- 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.

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.[811]

12.6.1 AER decision

The AER proposes to accept Multinet's proposed review submission date and revision commencement date against the NGO and rules 48(1)(i) and 48(1)(j) of the NGR.

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809 NGR, r. 106(1).
810 NGR, r. 50.
811 NGR, r. 50(2).

12.6.2 Access arrangement proposal

Multinet proposed a review submission date on or before 31 December 2016 and a revision commencement date on the later of 1 January 2018.[812] Multinet'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 Multinet's review submission and expiry date against the NGO and rules 48(1)(i) and 48(1)(j) of the NGR.

12.6.4 Reasons for decision

The revision commencement date is consistent with the general rule and the AER proposes to accept it. The review submission date of 31 December 2016 proposed by Multinet is one day earlier 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. Even though it makes no practical difference, the AER requires Multinet to amend the review submission date to 1 January 2017 to ensure consistency with the NGR.

Before the access arrangement can be approved, Multinet must make the following amendments.

12.7 Revisions

The AER requires the following revisions to be made to the non-tariff components of Multinet's access arrangement:

Revision 12.1: Amend cl. 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 cl. 4.4 as follows:

Insert the following cl. 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 cl. 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...

[812] Multinet, *Access arrangement proposal: Part A - Principal arrangements*, 30 March 2012, clauses 5.6.1 and 5.6.2.

Insert the following after the words 'ensure that Gas injected into the Distribution System':

on its behalf

Revision 12.4: Amend cl. 6.1(b) as follows:

Insert ‘acting reasonably’ before ‘determine’.

Revision 12.5: Amend cl. 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 cl. 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 cl. 7.6 as follows:

Reinsert cl. 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 cl. 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 cl. 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 cl. 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 cl. 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 cl. 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 cl. 11.2(c) as follows:

Insert the following word at the end of cl. 12.2(c):

'without notifying the User'.

Revision 12.14: Delete cl. 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 cl. 19.2 (b).

Amend clause 19.2(c) as follows:

Replace cl. 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 12.17: Amend clause 5.4 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 12.18: Replace clause 5.5.1 of the proposed access arrangement with the following:

5.5.1 Extensions

High pressure extensions

If Multinet 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 Multinet under this clause 5.6.1 must:

a) be in writing;

b) state whether Multinet 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.

Multinet 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 Multinet's application, and undertaking such consultation as the AER considers appropriate, the AER will inform Multinet of its decision on Multinet'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 12.19: Add the words:

Multinet will not withhold its consent unless it has reasonable grounds, based on technical or commercial considerations for doing so.

to clauses 5.4.2 and 5.4.3.

Revision 12.20: Replace clause 5.6.1 of the proposed access arrangement with the following:

5.6.1 Multinet will submit revisions to this Access Arrangement to the AER on or before 1 January 2017.

Access arrangement draft decision

Multinet Gas (DB No.1) Pty Ltd

Multinet Gas (DB No.2) Pty Ltd

2013–17

Part 3

Appendices

September 2012

AUSTRALIAN ENERGY REGULATOR

Contents

A – Capital expenditure is a confidential appendix

E – Operating 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. It noted this appendix would address some matters including arguments raised by Multinet 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 Multinet
- 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 in this appendix of Multinet's proposed averaging period for the cost of debtx. This section contains that discussion.

In its access arrangement proposal, Multinet proposed the use of a short averaging period for the cost of debt. But, Multinet did not specify when the averaging period would occur. Multinet 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.[1] The AER had previously outlined in a letter to Multinet that it considered the nomination of an averaging period an integral part of a complete access arrangement proposal.[2]

On 5 April 2012, the AER sent a letter to Multinet to formalise an agreement for nominating an averaging period. The AER proposed the following conditions:

> 1. At the time of publishing Multinet's proposal the AER will publish an indicative timeline for decisions.

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[1] Multinet, *Access arrangement information*, March 2012, p. 173.
[2] AER, *Letter to Multinet, 8 December 2011.*

> 2. The AER will notify Multinet, 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 Multinet 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, Multinet undertakes to advise the AER of its nominated averaging period. Multinet'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.[3]

On 12 April 2012, Multinet responded broadly that it accepted conditions one and two.[4] However, it stated that it would 'choose an averaging period to be used for the final decision of a date subsequent to the lodgement of the revised access arrangement proposal'.[5] On 16 April 2012, the AER sent another letter to inform Multinet that it considered its access arrangement proposal was 'deficient in respect of the averaging period'.[6] The AER informed Multinet that it had decided to:

> ...stop-the-clock for any period taken by Multinet 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.[7]

The AER reiterated that the conditions outlined in the 5 April letter would be acceptable.

In a letter dated 26 April Multinet accepted the conditions while it did not agree that its proposal was deficient.[8] In a letter dated 2 May the AER responded that it accepted that Multinet would provide an averaging period prior to the release of the draft decision.[9]

The AER sent a letter to Multinet on 20 August 2012 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.[10] Multinet responded in a letter dated 3 September 2012 that included an averaging period for the cost of debt, provided on a confidential basis, and the following statement:

> The duration of the interval has a bearing on the extent to which the period nominated now will be consistent with sections 23 and 24 of the National Gas law (NGL), and Rule 74(2) and 87(1) and the National Gas rules (NGR). Accordingly, Multinet may, in due course, wish to make amendments to the dates of the proposed averaging or reference period so as to ensure that the access arrangement complies with the NGL and NGR.

Multinet's proposed period is consistent with the conditions outlined in the AER's letter dated 5 April 2012. The AER therefore accepts Multinet's proposed averaging period for the cost of debt, but does not accept Multinet's 'wish to make amendments' in the future. This is because:

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3 AER, *Letter to Multinet*, 5 April 2012.

4 Multinet, *Letter to the AER*, 12 April 2012.

5 Multinet accepted the constraint that any nominated averaging period start after the date of the draft decision and finish no later than 15 business days from the expected release date of the final decision. Multinet, *Letter to the AER*, 12 April 2012.

6 AER, *Letter to Multinet*, 16 April 2012

7 AER *Letter to Multinet*, 16 April 2012.

8 Multinet, *Letter to the AER*, 26 April 2012.

9 AER, *Letter to the Multinet*, 2 May 2012

10 AER, *Letter to Multinet*, 20 August 2012

- 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 with the highest yield available.[11] 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 Multinet to the method as proposed. Doing so promotes certainty, consistency and predictability in regulatory decision making.[12]

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 Multinet with certainty so that it can make any necessary financial arrangements. These concerns are also discussed in section 4.3.2.

For the cost of equity, Multinet proposed a long term average estimate of the risk free rate of 5.99 per cent.[13] The AER does not approve the method proposed by Multinet for determining the risk free rate for the cost of equity. 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. The AER considers a prevailing risk free rate will produce the most appropriate estimate and is preferable.[14]

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 Multinet.

B.1.2 CEG contentions

Multinet 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 be[15]:

- 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

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11 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.

12 As noted above, the absence of either an averaging period or a process of nomination from Multinet's proposal was significant enough for the AER to find its proposal deficient. The AER formed the same position in relation to Envestra's and SP AusNet's proposals.

13 Multinet, *Access arrangement information*, March 2012, p. 163-164.

14 Section 4.3.2 provides analysis supporting this conclusion.

15 CEG, *Risk free rate and MRP in the CAPM*, March 2012, 20–32.

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.[16]

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:

> 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.[17]

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.[18] This would, all else the same, push the yield on risk free assets down. These actions reflect

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16 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.

17 Glenn Stevens, *Opening Statement to the House of Representatives - 24 August 2012 - Hansard script*, p. 2.

18 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.

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.[19]

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.[20]

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.[21]

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.'[22]

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 operates in markets that inevitably include non-resident investors.[23] 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.[24]

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.

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19 Discussed further in section 4.3.2.

20 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).

21 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

22 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).

23 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).

24 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).

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.[25] CEG argued that these requirements are placing strain on the CGS market.[26]

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.[27] 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.[28]

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.[29]

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 suggest that, over the years prior to the onset of the GFC, the liquidity premium may have been unusually low.[30]

Advice from the RBA and Treasury in 2007 suggested the use of nominal CGS as a proxy for the risk free rate was appropriate.[31] 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.

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25 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)

26 CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 30-32.

27 CEG, *Risk free rate and MRP in the CAPM*, March 2012, pp. 30-32.

28 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 32.

29 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

30 Debelle, Speech on the committed liquidity facility, November 2011, p. 2.

31 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.

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.[32]

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 hance a depressed yield.[33]

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.[34] 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 is now around $235 billion.[35] 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

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32 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

33 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 29.

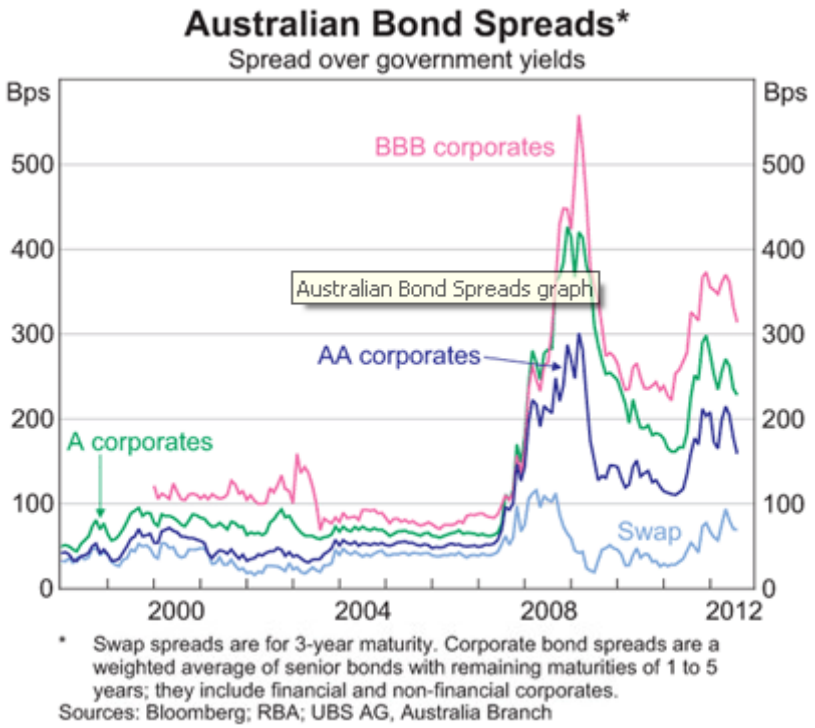
34 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

35 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

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.

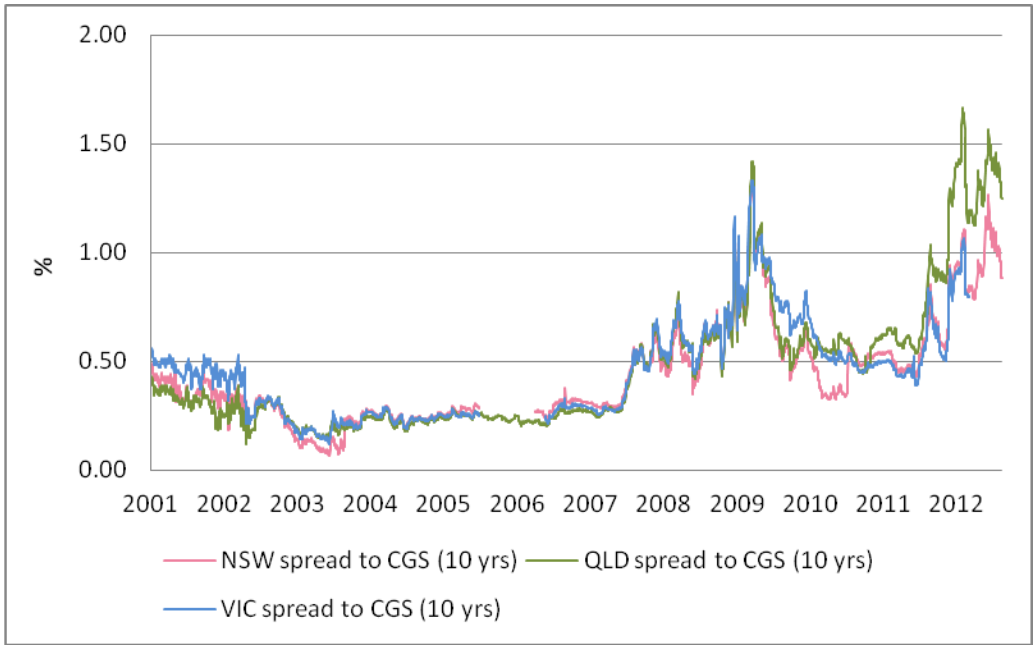
Figure B.1 Australian Bond Spreads



Source: RBA

The figure below shows that the widening of spreads can also be observed in the semi-government bond market.

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.'[36]

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.[37]

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.[38]

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.[39] The advice also notes that non-resident ownership of semi-government

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36 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

37 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

38 Lancaster and Dowling, *The Australian Semi-government Bond Market*, RBA bulletin, September Quarter 2011, p. 54.

39 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.

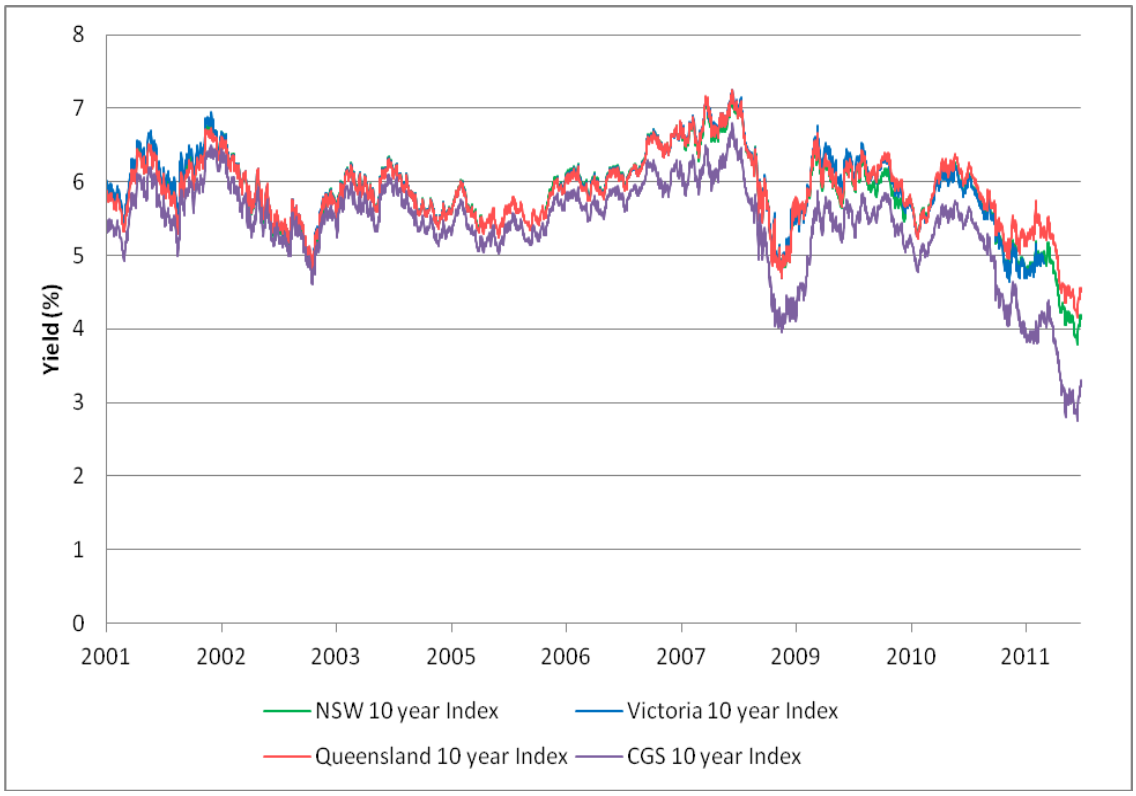
securities has increased in the same period, albeit by a smaller amount.[40] As discussed in section 4.3.2 above, the AER does not consider that increased demand from non-resident investors makes CGS an inappropriate proxy for the risk free rate.

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.[41] 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

40 Treasury and AOFM, *Letter regarding the CGS Market*, July 2012, p. 2.
41 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.[42]

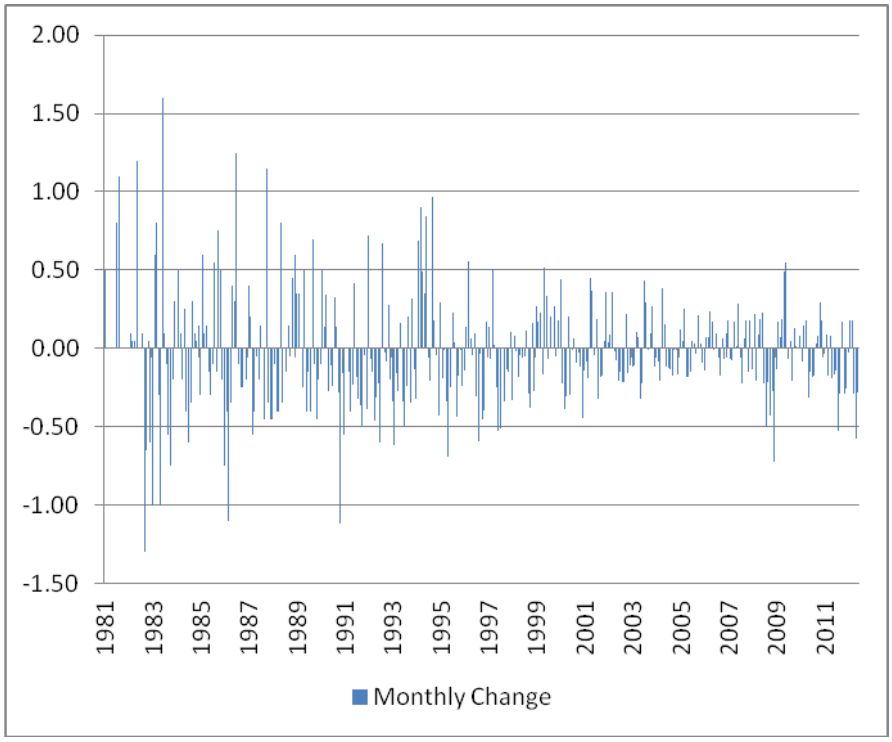
CEG comment that CGS yields have been very volatile over the past few years:

> 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.[43]

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.[44]

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.

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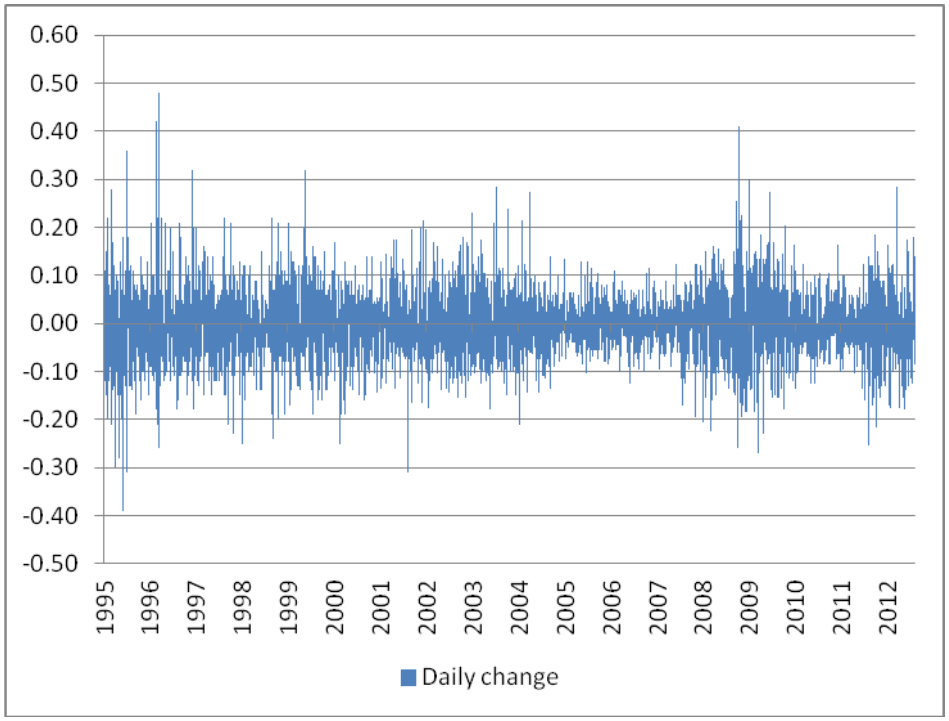
42 Discussed further in section 4.3.2.

43 CEG, *Risk free rate and MRP in the CAPM,* March 2012, p. i.

44 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.[45] CEG proposed the use of inflation indexed bonds averaged over the period from July 1993.[46] This approach was proposed by Multinet, Envestra Victoria and Albury and SP AusNet in their respective initial access arrangement proposals, but not by APA GasNet.[47]

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45 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 41-47.

46 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45-46.

47 Multinet, *Access arrangement information*, 30 March 2012, p. 154; Envestra, *Access arrangement information,* 30 March 2012, p. 156; SP AusNet, *Access arrangement information*, 30 March 2012, p. 189 ; 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.[48]

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, Multinet, Envestra Victoria and Albury, SP AusNet and CEG appear to argue that there are problems in the CGS market. These concerns are addressed in section 1.3.1 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 1.3.3.

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.'[49]

As discussed in section 1.3.1, 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.[50]

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.[51] These yields show variation as the time period

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48 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. i.

49 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)

50 Lally, *Risk free rate and present value*, August 2012, p. 7.

51 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'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.

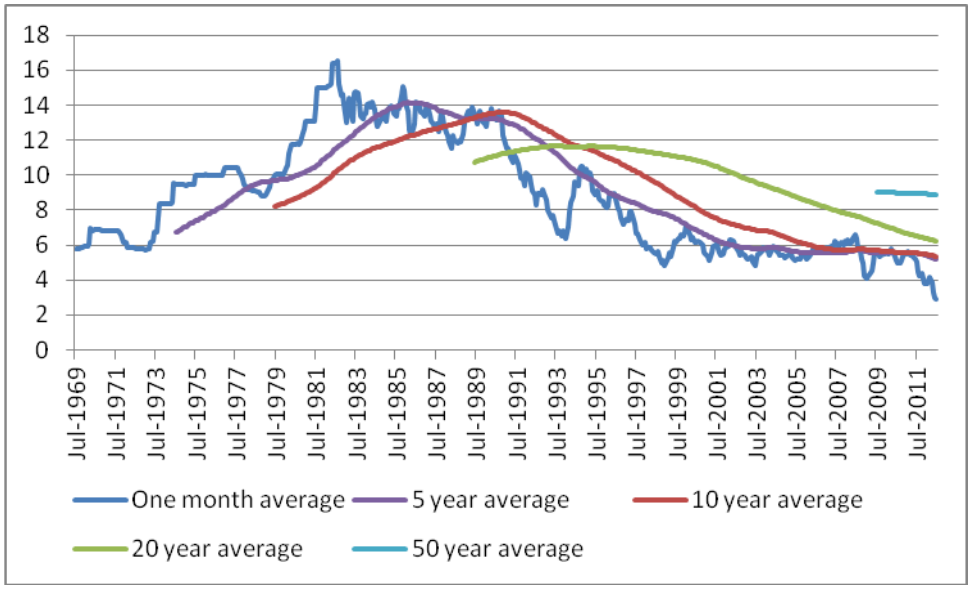
Table B.1 Historical average yields on nominal and indexed CGS

		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

Multinet proposed a long term average estimate of the risk free rate of 5.99 per cent.[52] This is consistent with advice Multinet received from CEG[53] CEG proposed the use of inflation

[52] Envestra, *Access arrangement information*, March 2012, p. 154.

indexed CGS from July 1993 plus an estimate of the future inflation rate of 2.50 per cent.[54] 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.[55]

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.[56] 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.[57] Indeed, the RBA and Australian Treasury confirmed this in advice to the AER.[58] 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.[59]

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.[60]

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.

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53 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 45.

54 CEG, *Risk free rate and MRP in the CAPM*, March 2012 p. 45.

55 CEG, *Risk free rate and MRP in the CAPM*, March 2012 p. 16, 45

56 '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.

57 CEG, *Risk free rate and MRP in the CAPM,* March 2012, p. 45

58 RBA, *Letter regarding the CGS market*, July 2012, p. 1.

59 Discussed further in section 4.3.2.

60 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

Multinet 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.[61] 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.[62] This suggests the AER should use a 5 year term. Professor Davis has also expressed support for this approach.[63]

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.[64] 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.[65] This formed an important consideration for the estimation of the DRP using a 10 year term.[66] In contrast, the ERA has recently analysed the average maturity of debt issued by regulated businesses and found this to be approximately 5 years.[67]

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

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61 AER, *Final Decision: WACC Review*, May 2009, p. 148–149.

62 Lally, *Risk free rate and present value*, August 2012, p. 16.

63 K. Davis, *Determining debt costs in access pricing*, *a report to IPART,* February 2011, p. 1.

64 A. Damodaran, *What is the riskfree rate? A search for the Basic Building Block,* December 2008, p. 6-7.

65 AER, *Final Decision: WACC Review*, May 2009, pp. 156-166.

66 AER, *Final Decision: WACC Review*, May 2009, p. 168.

67 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.[68] The Tribunal considered consistency with the calculation of the DRP to be most important.[69]

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 Multinet'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.[70] 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.[71] Also, the AER has followed the Tribunal's decision on the use of the Bloomberg fair value curve to estimate the DRP.[72]

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).[73] 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 Multinet 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 decision was

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68 Australian Competition Tribunal, *Application by DBNGP(WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 131.

69 Australian Competition Tribunal, *Application by DBNGP(WA) Transmission Pty Ltd (No 3) [2012] ACompT 14*, 26 July 2012, paragraph 132.

70 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.

71 Australian Competition Tribunal, *Application by Energex Limited (Gamma) (No 5) [2011] ACompT* 9, 12 May 2011.

72 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).

73 Australian Competition Tribunal, *Application by Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1,* 10 May 2010.

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 Multinet decision.

- The legislation in the EnergyAustralia matter included provisions deeming the MRP to be 6 per cent.[74] It is not clear to the AER the extent to which these provisions influenced the Tribunal's decision.[75] 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.[76]

- 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.[77] However, the Federal Court noted evidence that no Australian regulator has done so. It

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74 NER, Transitional chapter 6 clause 6.5.2(b)

75 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.*

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

77 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.[78]

- 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.[79]

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.[80] 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

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78 Federal Court of Australia, *ActewAGL Distribution v The Australian energy Regulator [2011] FCA 639*, 8 June 2011, paragraph 145.

79 NGR, r. 40(3)

80 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][81]

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.[82] 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

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81 Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009]* ACompT 8, 12 November 2009

82 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.[83] 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.[84] [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 Multinet 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,[85] the AER considers that the economic evidence it presented in the EnergyAustalia 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.[86]

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83 Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator [2011] FCA 639,* 8 June 2011, paragraph 113.

84 Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator [2011] FCA 639*, 8 June 2011, paragraphs 22 and 28.

85 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.

86 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.[87]

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.[88] 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.[89]

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.[90]

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87 Federal Court of Australia, *ActewAGL Distribution v The Australian Energy Regulator [2011] FCA 639,* 8 June 2011, paragraph 145.

88 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).

89 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 Multinet'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.[91]

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.[92]

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

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90 Australian Competition Tribunal, *Application by EnergyAustralia and Others (includes corrigendum dated 1 December 2009) [2009] ACompT 8*, 12 November 2009, paragraph 145.

91 Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 364.

92 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.[93]

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.[94]

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 Multinet 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 1.3.1 and 1.3.3 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.[95] The term structure is also commonly referred to as the yield curve.[96] 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.[97]

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 expression[98]:

(1+0Rn) = (1+0R1)(1+E0[1R2])...(1+E0[n-1Rn])

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93 Australian Competition Tribunal, *Telstra Corporation Limited ABN 33 051 775 556 [2010] ACompT 1*, 10 May 2010, paragraph 418.

94 In a recent determination process Aurora Energy Pty Ltd submitted that the Tribunal's comments at paragraph 422 supported a departure from a short tem 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).

95 E. Elton, M. Gruber, S. Brown and W. Goetzmann, Modern Portfolio Theory and Investment Analysis, Wiley: Eighth edition, 2010, pp. 516–521.

96 G. Peirson, R. Brown, S. Easton and P. Howard, *Business Finance*, McGraw-Hill: Eighth edition, 2003, p. 103.

97 T. Brailsford, R. Heaney, and C. Bilson, *Investments: concepts and applications*, Nelson Australia Pty Ltd: Third edition, 2007, p. 710.

98 T. Brailsford, R. Heaney, and C. Bilson, *Investments: concepts and applications*, Nelson Australia Pty Ltd: Third edition, 2007, p. 156.

Where:

E0[sRn]= expected nominal yield per annum for the period from time s to time n,

with expectations formed at time 0

0Rs = 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.[99] 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

The AER notes Multinet proposed a 6 per cent MRP based on the long term historical risk free rate of 5.99 per cent. Multinet also used DGM estimates and NERA's regime switching model estimate to provide cross checks for its WACC estimate. In addition to DGM and regime switching model, 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, and have been previously proposed by the businesses. It notes those other forward measures currently do not support an MRP above 6 per cent.

In this appendix, the AER considers:

- Historical excess returns:
  - further analysis on the use of arithmetic and geometric averages
  - the volatility of 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

[99] 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.

    - Capital Research's DGM estimates
    - NERA's regime switching model
    - the report by Professor McKenzie and Associate Professor Partington and 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 is the best estimate in the circumstances and commensurate with prevailing conditions in the market for funds.

B.2.1 Historical excess returns

Arithmetic and geometric averages of historical excess returns

Historical excess market returns are highly sensitive to the method of averaging returns over multiple periods. 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.[100]

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.[101] 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 are related to each other over time—for example, if yearly excess returns are the relevant

[100] 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.

[101] 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).

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),[102] 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.[103]. In that matter, the AER considered the following:

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[102] 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: APTPPL access arrangement*, August 2012, p. 69.

[103] 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.[104]

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.[105]

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.[106]

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'.[107] The AER does not consider it is appropriate to assume no uncertainty about the

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104 Corrs Chambers Westgarth, *Appendix B—market risk premium, the Australian Energy Regulator's submissions*, 11 November 2011, pp. 17–18.

105 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012, paragraph 157.

106 SFG, *Market risk premium, Report for APT Petroleum Pipelines Ltd*, 11 October 2011, p. 16 (SFG, *MRP for APTPPL*, October 2011).

107 In the Harvard case study, it assumes the probability of distribution is known. Since there is no uncertainty about the arithmetic mean of the return, the probably of measuring the MRP as discussed in the MRP section largely goes away. See further discussion at: 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.[108] 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.[109]

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.[110]

The AER also considered a recent NERA report, which argued against using geometric averages[111]. 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 new 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.[112]

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.[113] 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.

Further, 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.

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108 SFG, *MRP for APTPPL*, October 2011, p.1 8.

109 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012, paragraph 157.

110 McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 5–7.

111 NERA Economic Consulting, *The market risk premium: A report for CitiPower, Jemena, Powercor, SP AusNet and United Energy*, February 2012 (NERA, *MRP for the Vic electricity DNSPs*, February 2012).

112 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).

113 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.

Given current knowledge, McKenzie and Partington recommended the use of both arithmetic averages and geometric averages, tempered by an understanding of their inherent biases.[114] 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.

The Volatility of historical excess returns

In its April 2011 report, NERA observed that Australian excess market returns were less volatile prior to the 1950s than after this time. NERA suggested this lower historical volatility indicated that the MRP should have been lower before 1958 than after.[115] Based on this NERA report, Multinet suggested adjusting the pre-1958 data to reflect the volatility observed post-1958, the historical estimates would support an MRP estimate above 6.5 per cent.[116]

In the WACC review, the AER considered arguments for adjusting the historical data for unexpected or one-off events that could make the historical data 'unrepresentative'.[117] In considering whether or not to make those adjustments, the AER considered, among other evidence, advice from Officer and Bishop. Reflecting on that advice, the AER stated:

> ...comments in Officer and Bishop (in their current advice to the JIA) substantially reflected these earlier views. In both cases, the authors argued against the proposed adjustments, arguing they are 'ad hoc' and may themselves be a source of bias.
>
> ...
>
> Bishop argued that a lack of a well developed theory behind what drives the MRP makes events that might lead to bias in the historical data difficult to identify. Each set of authors also note that, except for Hathaway's acknowledgement of the relationship between the MRP and imputation credits, only events that might bias the historical MRP upwards had been considered, and not events that might do the reverse.
>
> The JIA and Officer and Bishop stated that their general position on adjustments was that a longer estimation period that includes both positive and negative shocks should be used rather than making 'ad hoc' adjustments to historical estimates. [118]

Given the lack of a well developed guiding theory, and the potential for the introduction of bias, the AER concluded in the WACC review that explicit adjustments should not be made to the historical data. It may be that NERA is right, and that the pre-1958 data is, in effect, 'too low'. On the other hand, the AER is aware of other arguments that would suggest that data in the first half of last century is, in effect, 'too high'. Potential biases in historical excess returns are discussed in attachment 4.3.3.

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114 McKenzie, and Partington, *Supplementary report on the MRP*, February 2012, pp. 7–9.

115 NERA Economic Consulting, *The market risk premium: A report for Multinet Gas and SP AusNet*, 29 April 2011

116 Multinet, *Appendix H-1 discussion of market risk premium issues*, March 2012, p.17

117 The AER considered specific adjustments proposed by Hathaway, Hancock, and Officer and Bishop.

118 AER, *Statement of regulatory intent,* May 2009, pp.209-214.

The lack of a well developed theory behind what drives the MRP makes the AER cautious of excluding large periods of data on the basis that it is unrepresentative of a forward looking MRP. For this and the other reasons set out in attachment 4.3.3, while the AER has considered Multinet's arguments, based on the weight of evidence before it, the AER considers it is reasonable to take into account historical excess returns from each period.

Further, as shown in table 4.3 in the attachment, the arithmetic average of historical excess returns over 1883-2011 and 1958-2011 (grossed up for a 0.35 value of distributed imputation credits) both result in a historical MRP of 6.1 per cent. Accordingly, even if the AER were to only rely on the post-1958 data this would not change the AER's position on the appropriate value of the MRP.

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.[119] The Tribunal stated while it did not have to decide this matter, it made a few comments:

> Surveys must be treated with great caution when being used in this context. Consideration must be given at least to the types of questions asked, the wording of those questions, the sample of respondents, the number of respondents, the number of non-respondents and the timing of the survey. Problems in any of these can lead to the survey results being largely valueless or potentially inaccurate.
>
> When presented with survey evidence that contains a high number of non-respondents as well as a small number of respondents in the desired categories of expertise, it is dangerous for the AER to place any determinative weight on the results.

In its February 2012 report, NERA raised similar questions about the use of survey evidence. About the surveys that the AER cited, NERA stated:

- 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.[120]

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119 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 3*, 11 January 2012, paragraphs 165–166.

120 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.[121] 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.[122]

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. [123]

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.[124] In terms of the surveys cited here, most were published in refereed journals and/or repeated over time.[125] The AER is thus reasonably satisfied with the adequacy of the wording in the survey questionnaires.

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121 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 17.

122 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)

123 McKenzie and Partington, *Supplementary report on the* MRP, February 2012, pp. 17–18.

124 McKenzie and Partington, *Supplementary report on the* MRP, February 2012, pp. 17–18.

125 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.[126] 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.[127] 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.[128]

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.

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126 McKenzie and Partington, *MRP: regime switching framework and survey evidence,* September 2012, p. 28.
127 McKenzie and Partington, *Supplementary report on the MRP, February 2012*, pp. 17–18.
128 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 a 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%.[129]

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

[129] 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.[130] 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.[131]

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.[132]
- Regulators had previously been wary to lower the MRP when DGM estimates were below 6 per cent.[133] 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 as a 'cross check' on the reasonableness of other methods to estimate the MRP, rather than as the primary method.[134]

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130 Corporate finance texts have noted '[t]he simple constant-growth DCF [discounted cash flows] formula is an extremely useful rule of thumb' but '[n]aive 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.

131 M. McKenzie and G. Partington, *Report to Corrs Chambers Westgarth: Equity market risk premium*, 21 December 2011, p. 25 (McKenzie and Partington, *Equity market risk premium*, December 2011).

132 Lally, *Cost of equity and the MRP*, July 2012, pp. 11–18.

133 AER, *Final decision: WACC review*, May 2009, p. 220.

134 AER, *Final decision: WACC review*, May 2009, pp. 218–219.

- Although DGM is extensively used by the US economic regulators in estimating the return on equity[135], it is not well accepted for use in the Australian context.[136]

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, McKenzie and Partington, and Lally supported the view that DGM estimates are highly sensitive to the assumptions made.[137] 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, 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.[138] Capital Research's analysis demonstrated the sensitivity of the DGM analysis to its assumptions. Capital Research 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.[139] Further, in the March 2012 report, Capital Research

135 CEG, *Risk free rate and MRP in the CAPM*, March 2012, p. 38.

136 The AER understands that the US might have better quality data for DGM analysis.

137 BHP Billiton, *Submission to the AER: APA GasNet access arrangement proposal*, 29 June 2012, pp. 13–14; McKenzie and Partington, Equity market risk premium, December 2011, pp. 23–27; Lally, Cost of equity and the MRP, July 2012, pp. 15–18.

138 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).

139 Capital Research, *MRP estimate for the Aurora determination*, February 2012, table 2, p.21.

updated this estimate to 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.[140]

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.[141] 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

140 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).

141 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.[142]

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.[143]

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.[144]

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142 Lally, *Cost of equity and the* MRP, July 2012, pp. 15–18.
143 Lally, *Cost of equity and the* MRP, July 2012, pp. 18–20.
144 Lally, *Cost of equity and the* MRP, 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.[145]

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.[146]

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 Multinet 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

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145 Capital Research, *Australian market risk premium*, January 2005, pp. 31–32.

146 Lally, *Cost of equity and* MRP, 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.[147]

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.[148] 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.[149]

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. [150] 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).[151]

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.[152]

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147 CEG, *Risk free rate and MRP in the CAPM,* March 2012, p. 49.
148 Lally, *Cost of equity and the* MRP*,* July 2012, pp. 11–23.
149 Capital Research, *MRP estimate for the Vic NSPs*, March 2012, p. 33
150 Capital Research, *MRP estimate for the Aurora determination*, February 2012, pp. 19–23.
151 McKenzie and Partington, *Equity market risk premium*, December 2011, p. 26.
152 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.[153] 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.[154] 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, Professor McKenzie and Associate Professor 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.[155] McKenzie and Partington remained of this view in their February 2012 and August 2012 report, after having reviewed further materials submitted by businesses.[156] The AER accepts McKenzie and Partington's advice and considers their approach supports an MRP estimate of 6 per cent.

Lally's advice

Associate Professor 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.[157]

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.[158]

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:

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153 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).

154 McKenzie and Partington, *MRP: Regime switching framework and survey evidence,* September 2012, pp. 21–22.

155 McKenzie and Partington, *Equity market risk premium*, December 2011, pp. 36–37.

156 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 5.
McKenzie and Partington, *MRP: Regime switching framework and survey evidence*, September 2012, pp. 24–25.

157 Lally, *Cost of equity and the MRP*, July 2012, p. 3.

158 Lally, *Cost of equity and the* MRP*,* July 2012, p. 34.

- Implied volatility relies on contentious assumptions to derive an MRP estimate.[159] In particular, the assumption that the price of risk per unit of implied volatility is constant is disputed on theoretical and empirical grounds.[160] 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.[161] 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.[162] 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.[163]

Section B.2.7 details the AER's consideration of implied volatility.

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159 Further, the appropriate measure of implied volatility is difficult to determine, with different measures (based on different underlying options) producing conflicting figures.

160 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).

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

162 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).

163 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's 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.[164]

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. [165] SFG peer reviewed NERA's regime switching model. SFG concluded NERA approach is appropriate for obtaining a prevailing MRP estimate in current circumstances.[166]

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.[167]

The AER notes McKenzie and Partington's view is relevant. It 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.[168] Mckenzie and Partington illustrated this uncertainty with the Brailsford, Handley and Mahareshwan (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 n-regime approach is possible, where n is > 1, with no compelling argument to be made

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164 NERA, *Prevailing conditions and the MRP*, March 2012, p. 42.

165 NERA, *Prevailing conditions and the MRP*, March 2012, pp. 24–31.

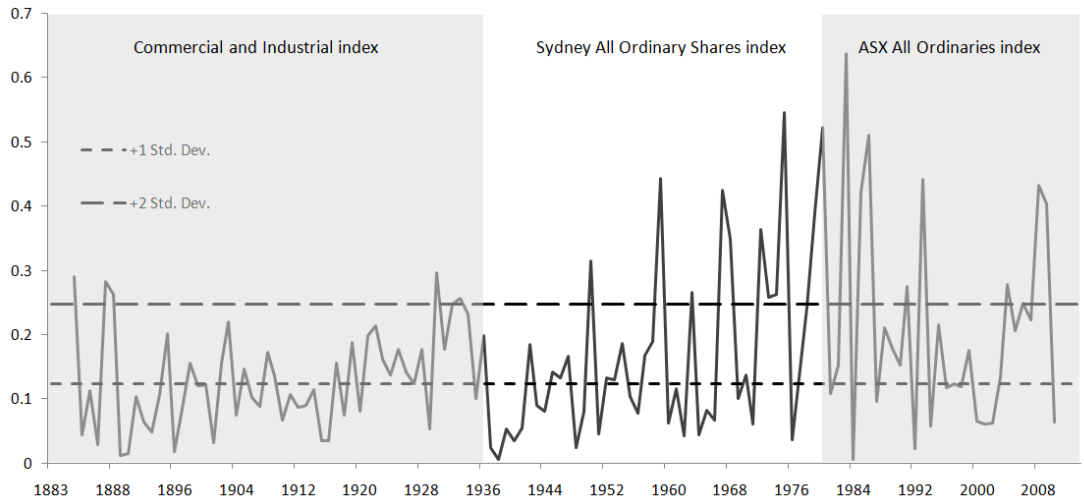
166 SFG, *Review of NERA regime-switching framework: Report for APA Group, Envestra, Multinet Gas and SP AusNet*, 29 March 2012, p. 8 (SFG, *Review of NERA regime-switching framework*, March 2012).

167 McKenzie and Partington, *MRP: Regime switching framework and survey evidence*, September 2012, pp. 5–25.

168 R. Tsay, *Wiley series in probability and statistics: Analysis of financial time series*, Wiley: Third edition, 2010, p. 187.

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.[169]

Table B.7 Brailsford, Handley and Mahareshwan (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.[170]

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 arrangements[171]
- by APTPPL (a subsidiary of APA Group) in October 2011 as part of the Roma to Brisbane Pipeline gas access arrangement[172]
- 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 determination[173]

169 McKenzie and Partington, *MRP: Regime switching framework and survey evidence*, September 2012, p. 20.

170 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).

171 SFG, *Issues affecting the estimation of MRP: Report for Envestra*, 21 March 2011.

172 SFG, *MRP for APTPPL*, October 2011.

173 SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012.

This technique was not proposed by Multinet in this review.[174] The Victorian gas networks (including Multinet) did jointly commission two reports from SFG on the estimation of the MRP,[175] 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.[176] Hence, the term of the implied volatility will accord with the option term—usually three months, but ranging between one year and one month.[177] The underlying principle is that higher implied volatility is indicative of higher risk and consequently a higher MRP.

Multinet proposed that implied volatility could be used to forecast the MRP (independent of the overarching SFG technique for deriving a conditional MRP).[178] However, Multinet included no reasoning to support this statement and no analysis of the current level of implied volatility.

The AER considered the use of implied volatility to inform the forward looking MRP in the WACC review and its previous decisions.[179] 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.[180]
- Measurement problems—different implied volatility measures produce different (and sometimes conflicting) results. Further, there is evidence that these measures are systematically biased (upwards).[181]

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174 Multinet did include a brief section on 'leading indicators of the MRP' which mentioned debt spreads and implied volatility, without placing them in the context of the overarching SFG technique for deriving a conditional MRP. The Multinet submissions on these two techniques are dealt with in the relevant subsections below. See Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9.

175 SFG, *Review of NERA regime-switching framework,* 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 MRP for the Vic DNSPs*, March 2012).

176 The Black-Scholes option pricing model is most often used, but other methods are possible.

177 To clarify, options are sold with different maturities beyond this range, but the implied volatility calculations are found only at these short term horizons.

178 Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9.

179 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.

180 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.

181 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.

- 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 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.[182]

The AER's view is shared by McKenzie and Partington who concluded in their February 2012 supplementary MRP report:[183]

> 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.[184] 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.

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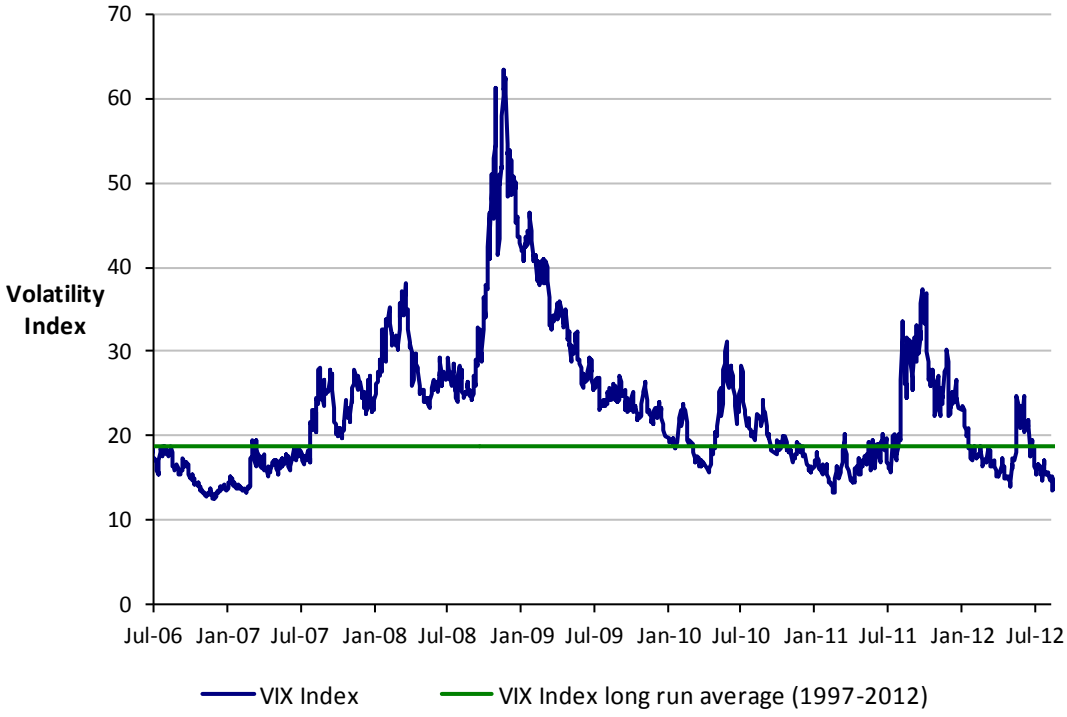
182 McKenzie, and Partington, *Supplementary report on the MRP*, February 2012. Also see the discussion of Doran (2005) in AER, *Draft decision: Envestra access arrangement SA*, February 2011, pp. 282–283; and AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 196–197.

183 McKenzie and Partington, *Supplementary report on the* MRP, February 2012, pp. 26–27

184 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: APTPPL access arrangement*, August 2012, pp. 222, 225–226.

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.

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.[185] 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).[186]

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

[185] 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: APTPPL access arrangement*, August 2012, pp. 218–226.

[186] 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.

which implies a higher risk premium for equity.[187] In accordance with this SFG analysis (but not the overarching SFG technique for deriving a conditional MRP) Multinet proposed that credit spreads could be used to forecast the MRP.[188]

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:[189]

- 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 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.[190]

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

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187 SFG, *MRP for APTPPL*, October 2011, p. 11.

188 Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9. In the same section, Multinet also proposed another technique to infer the cost of equity from debt yields: the adoption of a minimum ratio between the equity risk premium and the debt risk premium (i.e. ERP ≥ (2.66 × DRP)). This technique is distinct from the use of credit spreads, and is considered by the AER below (in its discussion on the cost of equity versus the cost of debt).

189 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 21–23.

190 More specifically, the DGM includes consideration of changes in dividends beyond the immediate dividend forecast horizon.

to predict equity market returns. [191] 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).[192]

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 SFG[193] a broader consideration of the academic literature (by McKenzie and Partington) does not indicate the relationship is statistically reliable.[194] The AER agrees with McKenzie and Partington's conclusion on this matter:[195]

> 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 in a higher observed dividend yield even when the MRP was unchanged (or lower).[196] 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.[197] 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.[198] In this case, the relevant data series is available back to 1973.[199] 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.

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191 SFG, *MRP for APTPPL*, October 2011, p. 9.

192 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.

193 Fama and French (1988, 1989) and Keim and Stambaugh (1986); see also Cochrane (2011) cited by McKenzie and Partington.

194 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.

195 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 23.

196 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.

197 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 12–13.

198 SFG, *Conditional and unconditional MRP for the Vic DNSPs*, February 2012, p. 12.

199 That is, the data series used by SFG and provided by them to the AER commences at this point.

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 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).[200]

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.[201] The VAA approach has been put forward:[202]

- 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 review[203]
- 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,[204] as well as the 2011 Advanced Metering Infrastructure determination[205]
- by Envestra in the South Australia and Queensland gas access arrangements in 2011.[206]

The AER considered this approach, although Multinet 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:

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200 To prevent misinterpretation, the AER does not consider that this figure is reliable.

201 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.

202 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.

203 VAA, *Market risk premium: Further comments: Prepared for Energy Networks Association, Australian Pipeline Industry Association and Grid Australia*, January 2009.

204 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.

205 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.

206 VAA, *Comments on the Market Risk Premium in Draft Decision by AER for Envestra February 2011*, March 2011 (VAA, *MRP for Envestra*, March 2011).

- 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.[207] 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) s 18.8 per cent. Adopting the higher baseline would reduce the MRP estimated using the VAA approach in all scenarios.

- 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.[208] 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.[209] 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.

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[207] 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).

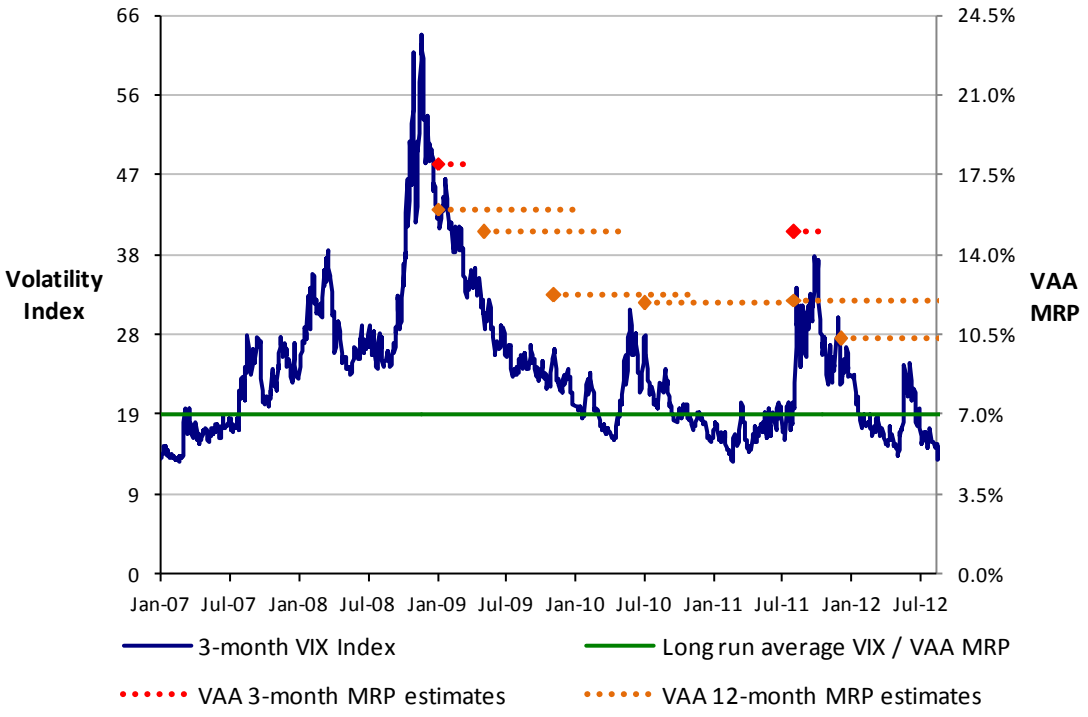
[208] The AER sets out earlier in this decision its analysis of the historical excess return series.

[209] A geometric average of the five years is used.

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.8shows 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).

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).

B.2.8 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 decision[210] and the views of Multinet[211] and SFG[212], the AER places limited weight on this evidence.

B.2.9 Reasons for the AER's departure from the WACC review

The AER agrees with the view of SFG and McKenzie and Partington that the AER's decision to increase the MRP to 6.5 per cent in mid 2009 was not well justified.[213] 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.[214]

These reasons led to the AER's departure from the previously adopted value of 6 per cent.
The global financial crisis (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.[215]
- Implied volatility since the height of the GFC has returned to its long run average.[216]

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

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210 Australian Competition Tribunal, *Application by Envestra Limited (No 2) [2012] ACompT 4*, 11 January 2012, paragraph 161.

211 Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, pp. 5–6.

212 SFG, *Response on MRP for the Vic DNSPs*, March 2012, pp. 18–19.

213 SFG, *MRP for Envestra*, March 2011, p. 5; McKenzie and Partington, *Supplementary report on the MRP*, February 2012, p. 29.

214 AER, *Final decision: WACC review,* May 2009, p. 238.

215 See Fernandez (2009), Fernandez and Del Campo (2010), Fernandez et al. (2011), Asher (2011).

216 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.

duration varies from more than a year to 12 years.[217] 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 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.[218]

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.[219]

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.[220] In turn, the AER considers this overall rate of return provides a reasonable opportunity for Multinet to recover at least its efficient costs.[221]

In this appendix, the AER examines:

- assets sales

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217 Burns and Mitchell, *Measuring business cycles*, National Bureau of Economic Research, 1946.

218 McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 28–30.

219 Energy Users Coalition of Victoria, *Submission to the AER: APA GasNet access arrangement proposal,* 18 June 2012, p. 46

220 NGR, r. 87(1).

221 NGL, s. 24.

- 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.

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: [222]

- 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.[223]

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

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[222] 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.

[223] 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).

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.

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[224]
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: DUET[225], APA[226], 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.[227] Further details on this transaction can be found in the AER's draft decision for the QLD/SA gas distribution networks.[228]

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

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224 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.

225 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>.

226 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).

227 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>.

228 AER, *Draft decision: Envestra access arrangement SA*, February 2011, p. 63.

20.1 per cent interest in Multinet.[229] These transactions were at multiples of 1.20, 0.95 and 1.13 respectively.

In December 2011, APA divested 80 per cent of its holding of APT Allgas (a gas distributor in South East Queensland) to Marubeni Corporation and RREEF; each acquiring 40 per cent equity stakes.[230]

APA stated that net funds released from the sale were $477 million after transaction costs and the net enterprise value was $526 million.[231] 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.[232]

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.[233] 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.[234]

As Grant Samuel has previously explained, listed infrastructure entities should theoretically trade at, and be acquired at, 1.0 times the RAB.[235] 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

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229 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>

230 APA Group, *ASX announcement on sale of Allgas*, December 2011.

231 APA Group, *ASX announcement on sale of Allgas*, December 2011 .

232 Allgas is a holding company that also owns the unregulated Moura pipeline and the Gatton-Gympie easement.

233 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.

234 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 78.

235 Grant Samuel, *Expert report: Babcock and Brown Infrastructure*, October 2009, p. 77.

approach has been maintained for this decision.[236] This suggests the AER's approach in this decision will also provide Multinet with a reasonable opportunity to recover efficient costs.

Trading multiples

A comparison of the asset value implied by share prices against the regulatory asset base—often expressed as a 'trading multiple'—also provides insight into the required rate of return.[237]

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.[238] 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 Morgan[239]

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 Group[240]

236 Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

237 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.

238 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.

239 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.

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 Suisse[241]

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 Lynch[242]

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.[243]

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.[244]

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

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240 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.

241 Credit Suisse, *Regulated Utilities Monthly*, *Sector review,* 7 August 2012, p. 10.

242 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.

243 Spark Infrastructure, *2012 Fact Book*, 27 February 2012, p. 9.

244 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.

> above RAB for these assets…This arbitrage reflects WACC calculations in the regulatory setting have a degree of conservatism.[245]

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. [246]

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.[247] This suggests the AER's approach in this decision will also provide Multinet with a reasonable opportunity to recover efficient costs.

Broker reports

Equity analysts publish broker reports on listed companies operating regulated energy networks in Australia. These reports generally include WACC estimates along with a range of information, including analysis of current financial positions and forecasts of future performance.

In several previous decisions, the AER has used the WACC estimates from those broker reports as a reasonableness check on the rate of return determined by the AER through its detailed assessment of each individual parameter. In the *Envestra* matter, the Tribunal noted the reasons put forward by 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

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245 Macquarie, *DUET Group: Limited RAB growth, At fair value*, 8 November 2011, p. 2.

246 Australian Energy Market Commission, *Directions Paper*, 2 March 2012, p. 108.

247 Changes have been made to the value of gamma, the value of the MRP and the estimation approach for the DRP.

> "useful reasonableness check" that its WACC estimate did not produce results which did not broadly accord with a range of market opinions concerning firms that are a reliable proxy to the benchmark firm. Its use of the broker reports was thus an "output" test of the nominal vanilla WACC rather than an input into its calculation of the WACC. [248]

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.[249]

Consistent with its approach in previous decisions, the AER uses broker WACC estimates as a reasonableness check on the overall rate of return.

The limitations of the use of broker WACC estimates include:

- the broker reports generally do not state the full assumptions underlying their analysis, or provide thorough explanations of how they arrive at their forecasts and predictions. As such, caution should be exercised in the interpretation of these broker reports[250]

- 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.[251] This means that the overall WACC estimate implied by broker reports may overstate the rate of return for the benchmark firm

- it is generally not clear what assumptions the brokers have relied upon when developing their WACC estimate. Further, variation in WACC estimates suggests that these assumptions are not consistent across the different brokers

- the broker reports do not always provide sufficient information for the AER to calculate a nominal vanilla WACC estimate. Only those brokers who report the WACC in nominal vanilla form or provide sufficient detail to enable conversion to this form were considered. These figures are not necessarily precise estimates of the broker's nominal vanilla WACC, since the AER has relied on its interpretation of the information provided

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248 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012, paragraph 166.

249 Australian Competition Tribunal, *Application by Envestra Ltd (No 2) [2012] ACompT 3*, 11 January 2012, paragraph 167.

250 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.

251 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.

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.[252] The nominal vanilla rate of return determined by the AER for Multinet in this draft decision is 7.16 per cent. This is approximately 60 basis points below the range of the broker WACC estimates.

The AER considers that broker WACC estimates do not demonstrate that the overall rate of return, which is based on analysis of individual parameters, is not commensurate with prevailing conditions in the market for funds and the risk involved in providing reference services. For the reasons outlined in the specific parameter sections above, the AER is satisfied this is the case. The broker WACC technique is subject to known limitations and inherent imprecision. Further, the review of broker WACCs is the only aspect of the overall reasonableness check that has indicated a potential concern.

Table 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.

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.[253] 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.

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252 The table presents broker reports from August 2012.

253 AER, *Final Decision: APTPPL 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* d*istribution 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 Arrangemen*t, June 2011, p. 18; Australian Competition Tribunal, *ActewAGL Gas Distribution Network: Order,* September 2010, p. 2.

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).[254] The decisions 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 Multinet 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
ESC	Metro Access Arrangement – Final decision	Aug 2011	9.08
ACCC	Airservices Australia – Final decision	Sep 2011	8.60
ERA	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	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 Multinet (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).

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

[254] 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, 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,[255] the AER considers that the expected cost of equity should be greater than the expected cost of debt.[256] 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 Multinet. 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 Multinet's approach in determining the cost of debt. If flows from this that the AER and Multinet 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.

Multinet's concerns surround the cost of equity and the extent to which the cost of equity determined by the AER in this decision is lower than that determined in previous decisions. The AER has discussed these concerns in detail in attachment 4.

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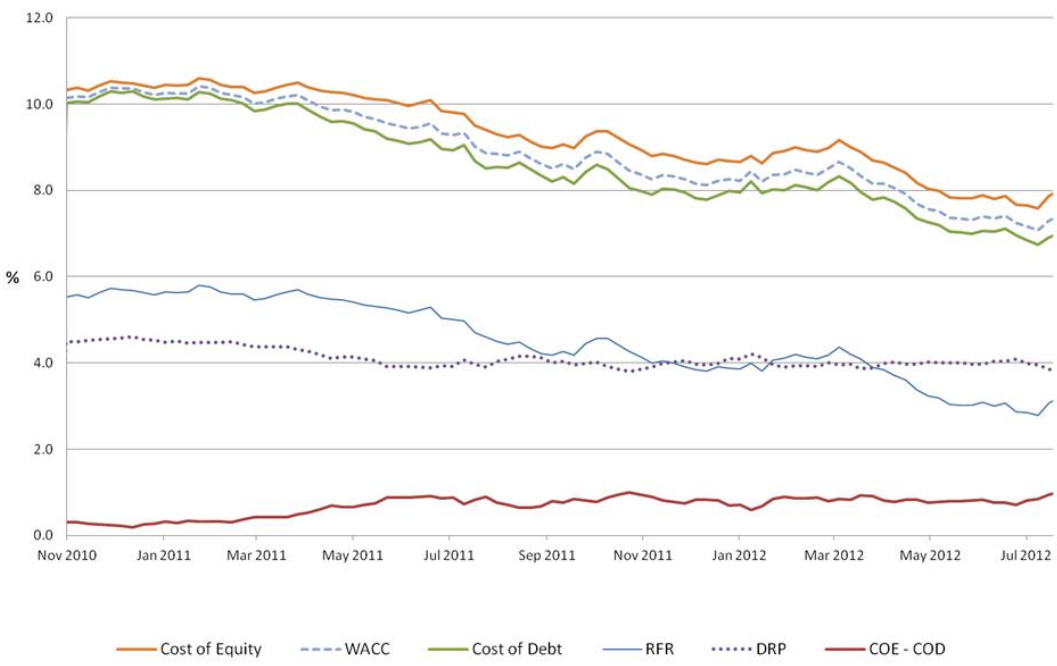
255 AER, *Final decision: APTPPL access arrangement*, August 2012, p. 102; AER, *Draft decision: Envestra Ltd: Access arrangement proposal for the Qld gas network 2011–2016*, February 2011, p. 243; AER, *Final decision: Envestra access arrangement Qld*, June 2011, pp. 148–149.

256 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 capital[257]
- 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.[258]

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.[259] The point is inconsequential in

[257] 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).

[258] 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.[260] 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.[261] 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.[262]

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.

Multinet also proposed another technique to assess the reasonableness of the cost of equity using the cost of debt—the adoption of a minimum ratio between the equity risk premium and the debt risk premium.[263] Specifically, Multinet referred to a report by Professor Bruce Grundy which stated that at a gearing ratio of 60 per cent, the equity risk premium must be at least 2.66 times the observed debt risk premium.[264] Multinet stated that if this 2.66 times relationship was not met it indicated that the cost of equity was too low, not that the cost of debt was too high. This was because the cost of debt was 'observed' and estimated:

> ...by drawing upon information provided by independent financial market participants and information providers.[265]

Consistent with previous decisions, the AER does not consider that there are reasonable grounds to expect that this 'minimum 2.66 times' relationship will hold.[266] In summary:

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259 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.

260 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.

261 This advice is discussed in appendix B.1.1. Source document is RBA, *Letter regarding the CGS market*, July 2012.

262 RBA, *Letter regarding the CGS market*, July 2012, p. 1–2.

263 The term 'equity risk premium' is sometimes used interchangeably with 'market risk premium'. However, in this section, the 'equity risk premium' is being used more specifically to refer to the cost of equity less the risk free rate—in other words, the MRP multiplied by equity beta.

264 Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9. Source document is B. Grundy, *The calculation of the cost of capital: A report for Envestra*, 30 September 2010, pp. 17–18 (Grundy, *Cost of capital for Envestra*, September 2010).

265 Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9.

266 AER, *Draft decision: Envestra access arrangement SA*, February 2011, pp. 263–265; AER, *Final decision: Envestra access arrangement SA*, June 2011, pp. 162–164. See also discussion in AER, *Draft decision: APTPPL access arrangement*, April 2012, pp. 312–314.

- Although there is a conceptual basis for this approach (specifically, Miller-Modigliani proposition two), it is limited by the simplifying assumptions inherent to such theoretical analysis.[267] This diminishes its use in estimating a real world rate of return.
  - These real world complications significantly alter the theoretical analysis. For instance, McKenzie and Partington noted that the key theoretical result from Miller-Modigliani proposition 2—that the overall cost of capital will be constant as gearing increases—will not hold in practice.[268] In this case the 2.66 times relationship will not hold. McKenzie and Partington also stated that there was no consensus on the correct relationship between capital costs and gearing.[269]
  - Further, when deriving the relationship Grundy relies on the proposition that the cost of debt will be 'convex'—that is, as gearing increases, the cost of debt increases at an increasing rate.[270] With more realistic assumptions (specifically, relaxing the assumption that debt is risk free) the cost of debt will not be convex and the 2.66 times relationship does not hold.[271]
- This approach requires the use of the expected DRP (not the promised DRP), as with the general comparison of the return on debt and the return on equity set out above. Multinet does not apply this approach to expected debt yields.
- If the DRP has been overestimated then, even though the cost of equity has been set appropriately, the 2.66 times relationship will not be met.[272] The AER has noted earlier in this decision that the Bloomberg fair value curve provides DRP estimates that are higher than:
  - other potential approaches, such as the ERA bond-yield approach
  - observed recent bond issuances from entities with similar characteristics to the benchmark firm.[273]
- Finally, it appears that Multinet itself does not consider this argument persuasive, since the equity risk premium and DRP proposed by Multinet do not meet this requirement. Multinet proposed an equity risk premium that is 1.22 times its debt risk premium.[274]

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267 For instance, the simplifying assumptions for Miller-Modigliani proposition 2 include the absence of taxes and the absence of bankruptcy costs.

268 M. McKenzie and G. Partington, *Report to the AER: Estimation of the equity beta (conceptual and econometric issues) for a gas regulatory process in 2012*, 3 April 2012, pp. 8–10 (McKenzie and Partington, *Estimation of equity beta*, April 2012).

269 McKenzie and Partington, *Estimation of equity beta*, April 2012, pp. 8–10, 12–15.

270 Grundy, *Cost of capital for Envestra*, September 2010, pp. 17–18.

271 Compare the different figures in Grundy, *Cost of capital for Envestra*, September 2010, p. 17 (labelled as figure 18.5) with J. Handley, *Memorandum: Peer review of draft report by Davis on the cost of equity*, 18 January 2011, p. 7 (labelled as figure 9) (Handley, *Peer review on the cost of equity*, January 2011). There is also relevant discussion in McKenzie and Partington, *Equity market risk premium*, December 2011, pp. 30–31 and McKenzie and Partington, *Supplementary report on the MRP*, February 2012, pp. 21–23.

272 For clarity, this point does not imply that the AER considers the 2.66 times relationship should apply (it does not). However, even if Multinet was correct and the 2.66 times relationship was valid, there would still be no grounds to conclude that the equity risk premium was too low. See Handley, *Peer review on the cost of equity*, January 2011, p. 10.

273 This is particularly relevant given Multinet's statement that the 'observed' nature of the debt risk premium makes it more reliable than the equity risk premium. Multinet, *Access arrangement information*, 30 March 2012, Appendix H-1, p. 9.

The AER considers that the cost of equity should be above the cost of debt; but does not consider that there should be a minimum ratio between the equity risk premium and the debt risk premium. The AER considers that this cross check suggests that the cost of capital set by the AER is 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.

MultiNet 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.[275] The AER has previously outlined some of the limitations of the Black CAPM. The AER still holds the following concerns with the Black CAPM: [276]

- 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 MultiNet in the NERA report.

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 MultiNet'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.[277] Also, the zero beta return in the Black CAPM is highly sensitive to the input variables and methods of estimation.[278] For example, McKenzie and Partington demonstrate that the return on two efficient zero beta portfolios differ

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274 Specifically, Multinet proposed an equity risk premium (MRP x beta) of 4.8 per cent and a DRP of 3.92 per cent, and 4.8/3.92 = 1.22. Note that this Miller-Modigliani analysis is predicated on the assumption of integrated debt and equity markets. It is not clear how Multinet can reconcile its statement that 'the markets for debt and equity are integrated' with the proposal of different risk free rates for equity and debt.

275 MultiNet, A*ccess arrangement information*, 30 March 2012, pp. 156, 167–169.

276 AER, *Final decision: Envestra Ltd access arrangement Qld*, June 2011.

277 M. McKenzie and G. Partington, *Review of NERA report on the Black CAPM*, 24 August 2012, pp. 7–8 (McKenzie and Partington, *Review of NERA Black CAPM*, August 2012).

278 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, pp. 7–8.

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.[279]

- 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.[280] 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.[281] 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.'[282]

- NERA appears to have selectively set aside estimates from the Black CAPM.[283] 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.' [284]

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 sections 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.

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279 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, pp. 10–14.
280 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, p. 8.
281 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, p. 22.
282 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, p. 22.
283 McKenzie and Partington, *Review of NERA Black CAPM*, August 2012, pp. 24–25.
284 McKenzie and Partington, *Review of NERA 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 Multinet's proposed labour cost escalators. The AER considers that applying Multinet's proposed escalators will not result in forecast opex and capex arrived at on a reasonable basis.[285] Nor do they provide the best possible forecasts of opex and capex in the circumstances.[286]

The AER instead considers labour costs be escalated by the unadjusted Labour Price Index (LPI). The AER considers that applying these escalators to labour costs would result in the best possible forecasts of opex and capex in the circumstances.[287]

The AER engaged Deloitte Access Economics (DAE) to develop forecasts of labour cost changes.[288] The AER has determined the appropriate labour cost and materials escalators set out in Table C.1.

Table C.1 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
Internal labour - general	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

Source: AER analysis, Deloitte Access Economics, *Forecast growth in labour costs in Victoria: Report prepared for the AER*, 28 May 2012, p. 67.

C.2 Multinet's proposal

Multinet proposed real labour cost escalations of 2.65 per cent per annum.[289] Multinet engaged BIS Shrapnel to forecast the change in labour costs for 2013–17 access arrangement period.[290] Multinet's proposed real labour cost escalation is the real productivity

285 NGR, r. 74(2)(a).
286 NGR, r. 74(2)(b).
287 NGR, r. 74(2)(b).
288 Deloitte Access Economics, *Forecast growth in labour costs in Victoria: Report prepared for the AER*, 28 May 2012.
289 Multinet, *Response to AER information request 24*, 17 July 2012.
290 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. v.

adjusted average weekly ordinary time earnings averaged from 2012–17.[291] Multinet has not included any information in their proposal on how they have applied BIS Shrapnel's forecasts.

Multinet has not claimed any network materials real cost escalation.

C.3 Assessment approach

The AER assessed Multinet's proposed real cost escalators against the forecasts and estimates requirements in rule 74 of the NGR:[292]

> **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 taken into consideration Professor Borland's report commissioned by Envestra and BIS Shrapnel's report commissioned by Multinet. In forming its views the AER has also considered advice from its commissioned consultant, DAE, on labour cost escalators.

C.4 Reasons for draft decision

The AER's draft decision is not to approve Multinet's proposed labour cost escalators. The AER considers that applying Multinet'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.[293] This is because:

- actual forecast annual movements in labour costs provide the best forecast of movements in labour costs rather than an averaged labour cost
- forecast movements in labour costs for the electricity, gas, water and waste services (EGWWS) industry provide a better forecast of movements in all internal labour costs possible in the circumstances, compared to the electricity, gas and water (EGW) industry for network labour
- the LPI provides a better measure of labour cost changes compared to average weekly ordinary time earnings (AWOTE).
- real labour cost escalation should not be productivity adjusted due to issues in measuring and forecasting productivity

The following sections discuss these issues in detail.

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291 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. A-5.

292 NGR, r. 74.

293 NGR, r. 74(2).

C.4.1 Averaging labour cost escalations

The AER is not satisfied the use of a single averaged real cost escalation for 2013-2017 access arrangement period reasonable reflects the best estimate of the change in labour costs. [294]

The AER notes real cost escalation forecasts by BIS Shrapnel and DAE vary each year. The AER considers that labour cost escalation forecasts should reflect the forecast economic conditions during a regulatory year including any variation in costs over the regulatory period.

C.4.2 Use of labour force industries

The AER does not approve Multinet'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.[295]

The AER considers that using forecast growth in the EGWWS industry to escalate both network related labour and general labour better reflects labour costs for all internal Multinet labour during the 2013–17 access arrangement period.

Since late 2009 the ABS has reported AWOTE and LPI data under the ANZSIC[296] 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 discontinuing 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.[297]

Multinet'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.

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.[298]

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

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294 NGR, r. 74(2)(b).

295 NGR, r. 74(2)(b).

296 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.

297 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. A-5.

298 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. A-5.

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 BIS Shrapnel's use of EGW to escalate labour costs would not result in the best labour cost forecast or estimate possible in the circumstances.[299]

DAE has estimated labour costs using the ANZSIC 2006 classification for the EGWWS labour force industry to represent Multinet'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.4.3 The choice of labour price measure and use of productivity adjustments

The AER does not approve Multinet's proposed use of forecast AWOTE growth rates adjusted for forecast labour productivity for the entire regulatory period. The AER does not consider that it permits a forecast to be made on a reasonable basis, and the best possible forecast in the circumstances.

The AER considers that LPI forecasts, unadjusted for productivity effects, permits the best possible forecast of labour cost movements in the circumstances because:

- productivity measures for the EGWWS industry exhibit estimation bias for the reasons outlined in recent Productivity Commission (PC) analysis[300]
- 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;
- 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.[301]

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299 NGR, r. 74(2)(b).

300 Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012.

301 Professor Jeff Borland, *Labour cost escalation report for Envestra Limited*, 2011, p. 2.

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.[302]

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.[303] 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 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.[304] 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

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302 Deloitte Access Economics, *Response to Professor Borland: comments prepared for the AER*, 15 April 2011, p. 3.

303 Deloitte Access Economics, *Response to Professor Borland: comments prepared for the AER*, 15 April 2011, p. 3.

304 ABS, *Quality-adjusted labour inputs Research paper*, Catalogue number 1351.0.55.010, November 2005.

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 Multinet 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.

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.[305] 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.[306] However, the PC has noted four broad issues which impact measurement of marginal factor productivity (MFP) growth in EGW industries:

1. cyclical investment—the lumpy nature of capital in relation to measured output[307]
2. output measurement—difficulty in measuring output which can lead to unanticipated changes in MFP[308]
3. shifts to higher cost technologies—investments as a result of climate-related issues increasing the cost per unit of output[309]
4. unmeasured quality improvements—changes in government regulations mandating improvements in the network that are not directly measured, such as mandatory underground electricity cabling.[310]

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 term is extremely difficult, leading to high risk of forecasting error.[311]

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305 See AER, *Draft Decision: Powerlink Transmission determination 2012–13 to 2016–17*, November 2011, p. 57.

306 AER, *Draft Decision: Powerlink Transmission determination 2012–13 to 2016–17*, November 2011, p. 56.

307 Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, p. 122.

308 Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, p. 126.

309 Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, pp. 128–129.

310 Productivity Commission, *Productivity in electricity, gas and water: measurement and interpretation*, March 2012, pp. 129–130.

Multinet has applied a productivity adjusted AWOTE estimated by BIS Shrapnel. BIS Shrapnel forecasts weak productivity growth over the next six years due to constrained demand and output growth.[312] The AER considers that BIS Shrapnel's productivity forecasts do not take into account the factors described by the PC listed above.

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 2013–17 access arrangement period.

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.[313] 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 adjustment is different from zero, this result would be deducted from both LPI growth and productivity growth resulting in a net effect of zero.[314]

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.[315]

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 Multinet's forecasts of labour costs.

Choice of labour price measure

Given the difficulty in measuring and forecasting labour productivity movements, the AER considers that productivity adjustments should not be applied to Multinet's labour cost escalations. The AER notes that currently unadjusted labour forecasts of the AWOTE and LPI are above inflation. This approach will allow Multinet to benefit from changes in labour productivity effects. In light of the difficulties in estimating productivity, the AER considers an

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311 AER, *Draft decision - Access arrangement proposal for the Roma to Brisbane Pipeline 2012–13 to 2016–17*, April 2012, p. 200.

312 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales*, November 2011, p. 44.

313 Professor Jeff Borland, *Labour cost escalation: Choosing between AWOTE and LPI - Report for Envestra Limited*, March 2012, p. 6.

314 Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 7.

315 Professor Jeff Borland, *Labour cost escalation: Choosing between AWOTE and LPI - Report for Envestra Limited*, March 2012, p. 6.

unadjusted LPI is the best forecast in the circumstances[316] although this figure is upwardly biased by including labour productivity improvements.

Multinet proposed the use of forecast movements in productivity adjusted AWOTE, provided by BIS Shrapnel, to escalate its labour costs for anticipated real labour price increases.

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.[317] 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.[318]

Conceptually at least, either labour price measure can quantify the change in labour costs, provided a correctly matched productivity measure is used.[319]

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.[320]

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 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.[321]

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 rather than on a quarterly basis and ceases publishing all AWOTE by state by industry information.[322]

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.

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316 NGR, r. 74(2)(b).

317 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.

318 ABS, *Labour Price Index: concepts, sources and methods*, Catalogue number 6351.0.55.001, 2004, p. 12.

319 Deloitte Access Economics, *Response to Professor Borland: comments prepared for the AER*, 15 April 2011, p. 3.

320 BIS Shrapnel, *Real cost escalation forecasts to 2017 - Victoria and New South Wales, November 2011*, p. 25.

321 Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 2.

322 Deloitte Access Economics, *Response to issues raised in the Victorian Gas Access Review*, 29 May 2012, p. 2.

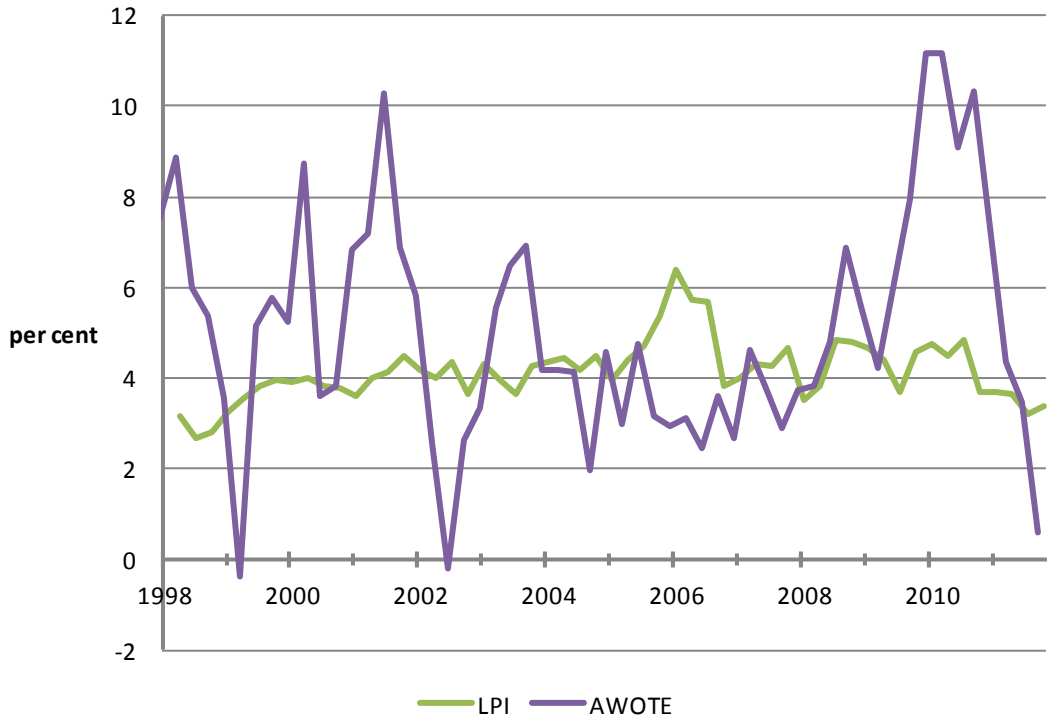
The ABS also considers the LPI to be their preferred indicator of changes in the price of labour because average weekly earnings (AWE) estimates are affected by changes in both the price of labour and changes in the composition of the labour market.[323]

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 Multinet to retain any efficiency benefits of workforce compositional change.

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 Multinet has positive labour productivity over the forecast period.

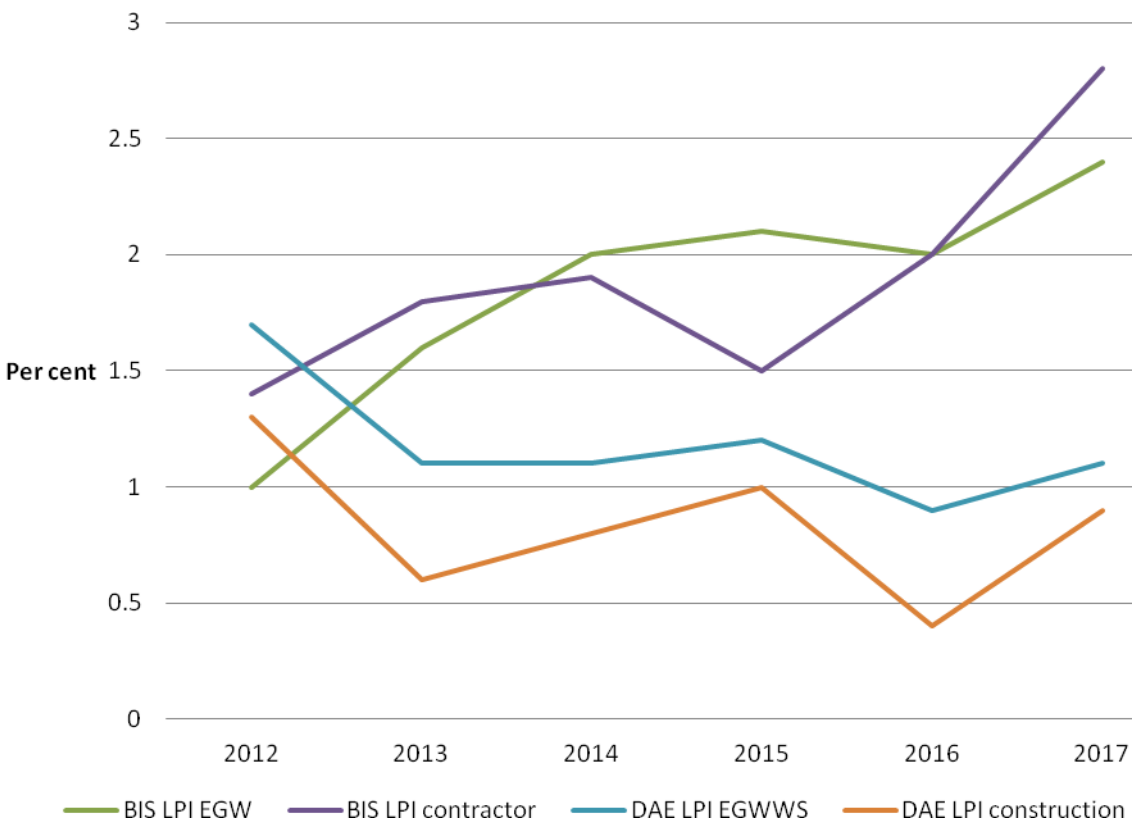
[323] ABS, *Labour Price Index: concepts, sources and methods*, Catalogue number 6351.0.55.001, 2004, p. 43.

Choice of LPI forecasts

BIS Shrapnel estimated Multinet'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 lower.[324] BIS Shrapnel's LPI forecasts, unadjusted for productivity, are higher than those forecast by DAE.

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.[325]

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.2). For the forecast series commencing 2006 to 2011 included in the analysis, the average of DAEs and BIS Shrapnel's

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[324] Deloitte Access Economics, *Responses to issues raised in various submissions to the Victorian Gas Access Review*, 29 May 2012, p. 25.

[325] NGR, r. 74(2)(b).

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.[326] It is also consistent with DAEs finding that its forecasts were too pessimistic but BIS Shrapnel's were too optimistic. The AER does not have the necessary data to undertake the same analysis for Victoria.

Table C.2 Comparison of past LPI forecast

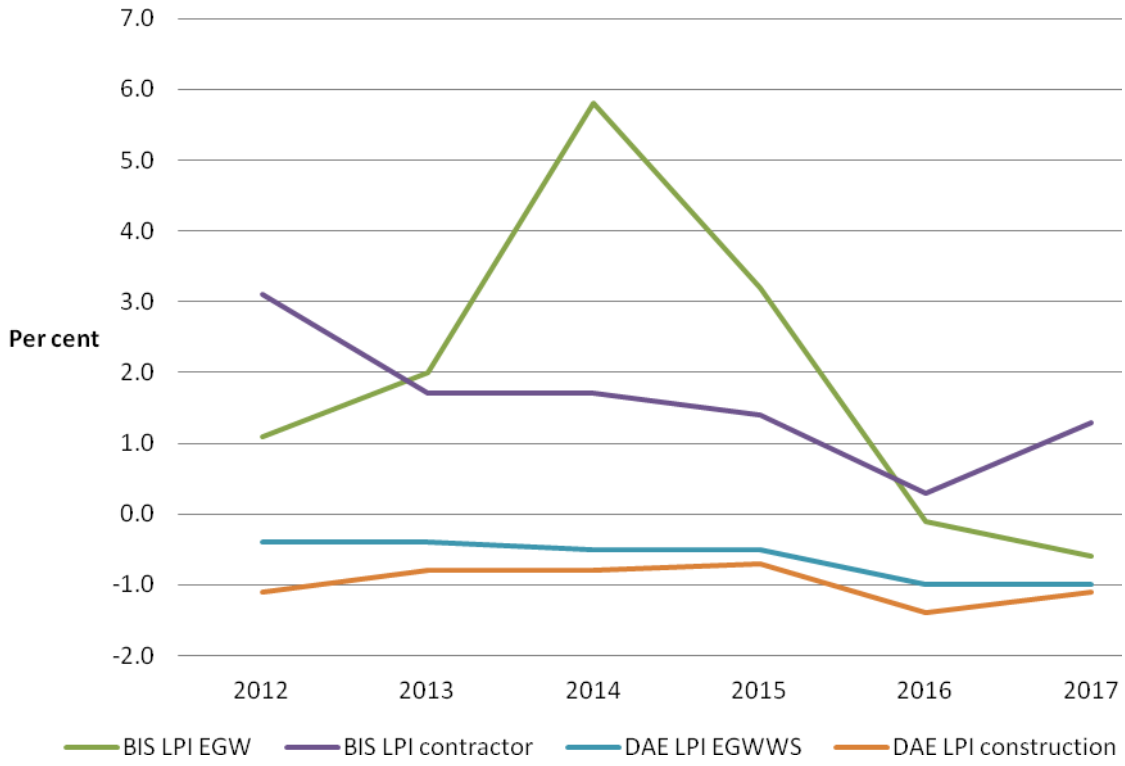
Forecast	2006-07	2007-08	2008-09	2009-10	2010-11	Mean absolute error
						Utilities
Actual	5.0	4.1	4.5	4.3	4.2	
BIS Shrapnel (March 2007)	5.8	5.8	5.2	4.5	4.7	0.78
DAE (April 2007)	5.6	5.7	5.1	3.6	3.9	0.76
BIS Shrapnel (April 2009)			4.8	4.7	4.4	0.30
DAE (September 2009)			4.5	3.5	3.4	0.53
BIS Shrapnel (December 2009)				4.3	4.2	0.00
DAE (March 2010)				4.0	3.9	0.30
						All industries
Actual	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 Multinet's labour costs in the 2013–17 access arrangement period.

[326] Robert T. Clemen, *Combining forecasts: A review and annotated bibliography*, International Journal of Forecasting, volume 5, issue 4, 1989, pp, 559–583.

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 Revisions

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

Revision 1.1: Opex forecasts should be amended to reflect the labour cost forecasts set out in Table C.1.

D Terms and conditions – Submissions

The AER has decided to accept a number of Multinet'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	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. [327] Multinet was not amenable to Origin's proposed deletion of clause 2.1(b). Multinet 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. [328]	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. 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. 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.
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

[327] Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
[328] SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 15.

	relationship	commencement of NECF and to allow the section to come into force when NECF is implemented in Victoria.[329] Multinet was not amenable to APG's proposed revision to clause 3. Multinet 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.[330]	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–NECF.. The AER considers that this provides certainty and clarity. This promotes the efficient operation and use of gas services, an aspect of the NGO.
3(b)		AGL notes 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. [331] Multinet was not amenable to AGL's proposed revision to clause 3(b). Multinet submitted that the scenario envisaged by AGL would only arise with a large customer and not small customers. Multinet considers 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, Multinet considered AGL's proposed revision to clause 3(b) would be inconsistent with the NECF regime. [332]	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. 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. 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.
4.4(b)	Entitlement to refuse service	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	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.

329 Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.
330 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 17.
331 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
332 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 17-18.

	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).[333] Multinet was not amenable to AGL's proposed deletion of clause 4.4(b). Multinet 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. Multinet 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.[334]	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. 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. 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.
4.4(c)	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.[335] 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.[336] Multinet stated that it was not amenable to Origin's proposed amendment to clause 4.4(c). Multinet 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 distribution network, and permits the Service Provider to take action to mitigate the	AGL's submission is considered in Part [*Reasons for decision - Entitlement to Refuse Service]* of this Draft Decision. 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. The AER considers that this clause is designed to protect the network. Accordingly it promotes the efficient operation and use of gas services, an aspect of the NGO.

333 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
334 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 18-20.
335 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
336 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

		impact of this. Multinet noted that Retailers cannot take corrective action within the distribution network and therefore questioned what reciprocity Origin was referring to in its submission.[337]	
4.5	Suspension for retailer of last resort	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.[338] Multinet was not amenable to AGL's suggested amendment to clause 4.5. Multinet 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. Multinet further submitted that clause 4.5 is not inconsistent with the current RoLR scheme or that proposed to apply under NECF.[339]	The AER agrees with Multinet'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. 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 Multinet. 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. Further, for the reasons set out in attachment 12, section 1.1.4 – *NECF,* 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.
4.7(a)-(b)	The User's obligations / Capacity management	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).[340] Multinet was not amenable to AGL's suggested deletion of clause 4.7(a) and (b). Multinet submitted that those sub-clauses deal with pressure and volume and the physical limitations of distribution assets, and not gas quality. Multinet considers that	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.

337 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 20-21.
338 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
339 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 21-22.
340 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

	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'. [341]	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). [342] 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'.[343] 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.[344] Multinet was not amenable to APG's proposed amendment to clause 4.7(c). Multinet	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 being injected into the distribution system, as the Service Provider has no

341 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 22-23.
342 Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.
343 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
344 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

		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.[345]	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. The AER has considered APG's submission in attachment 12, section 1.1.4 – *Users obligations/capacity management.*
4.8	Title to gas	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).[346] Origin submitted that the word 'good' in clause 4.8 ('good title to gas') is unnecessary and should be removed.[347] Multinet was not amenable to AGL and Origin's proposed amendments to clause 4.8. In response to AGL's submission, Multinet 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. In response to Origin's submission, Multinet 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.[348]	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. 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. Further, the AER agrees with Multinet 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
6.2(a)	Disconnection	AGL submitted that the new phrase 'but only where permitted by applicable regulatory	The AER disagrees with Origin's contention that the additional wording is

345 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 23-24.
346 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
347 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
348 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 24-25.

	at the request of User	instruments to make such a request' in clause 6.2(a) is an unnecessary addition and should be deleted.[349] 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.[350] Multinet 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, Multinet stated that it was amenable to Origin and AGL's request, however, it noted that it considers the current drafting to be helpful.[351]	unnecessary as it is already contained in the definition of 'Disconnection Request'. As stated by Multinet 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. 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. Notwithstanding Multinet's willingness to remove this phrase, the AER considers that it should be retained.
6.2(c)		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'.[352] Multinet was not amenable to Origin's proposed amendment to clause 6.2(c). Multinet noted that it may be precluded from disconnecting a customer for a host of reasons. In general, Multinet 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. Further,	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. 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 long term

349 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
350 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
351 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 26-27.
352 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

	Multinet considered that the term 'beyond its control' adds no further regulatory or legal clarity.[353]	interests of consumers.
6.2(f)	AGL submitted that disconnection is heavily regulated and therefore clause 6.2(f) is superfluous. AGL proposed that this clause should be deleted. [354] 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.[355] Multinet was not amenable to the suggested deletion of clause 6.2(f). Multinet 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. [356]	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. 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. 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.
6.2(g)	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.[357] Multinet was not amenable to AGL's proposed amendment to clause 6.2(g). Multinet 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. Multinet noted that the obligation has always been reasonable endeavours for	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. 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 of the

353 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27.
354 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
355 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
356 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27.
357 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

	this reason, and that Service Providers are not funded to disconnect whatever the cost.[358]	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)'.[359] Multinet was not amenable to AGL's proposed amendment to clause 6.2(h). Multinet 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. Multinet 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. Multinet 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'.[360]	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 Multinet, 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 indemnify	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 User

358 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 27-28.
359 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
360 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 28.

		the User for any claims brought against the User for the Service Provider's actions or omissions.[361] Multinet was not amenable to AGL's proposed amendment to clause 6.2(j). Multinet 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. Multinet submitted that cl. 13.5 clearly doesn't cover disconnections. Further, Multinet considered that there was no need to insert a further reciprocal indemnity as an indemnity was already contained in clause 11.3.[362]	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 Multinet 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).[363] Multinet was not amenable to AGL's proposed deletion of clause 6.3(b). Multinet agrees with AGL that Service Providers have little information to determine a customer's identity. Multinet 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.

361 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
362 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29.
363 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.[364]	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.
6.5	Assistance	Origin submitted that the obligation in clause 6.5 should be reciprocal.[365] AGL noted that clause 2.3 of Multinet'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.[366] Multinet was not amenable to AGL and Origin's proposed amendments to clause 6.5. Multinet 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. Multinet considered that it is critical that the Service Providers have the retailer's assistance in these processes. Multinet did not consider r. 94 to be sufficient because it is mainly concerned with information or documents, whereas clclause 6.5 is about assistance to restore or manage supply issues. Multinet 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. Multinet also noted that r. 94 is not currently in force. Multinet noted that clause 2.3 suffers from some of the same issues in that it is too general. Regarding reciprocity, Multinet submitted that clause 6.5 is concerned with actions the Service Provider must take to manage its networks and supply issues. It is not clear to	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 between the two clauses, it considers that the clauses will differ in their

364 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29.
365 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
366 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

		Multinet when the retailers would face similar issues as they do not manage physical infrastructure. Multinet stated that if the retailers are able to nominate the types of matters they consider they need assistance with, then Multinet will consider the inclusion of a clause for the required support.[367]	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.
7.1(e)	Charges	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.[368] Multinet was not amenable to AGL's proposed amendment to clause 7.1(e). Multinet 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. Multinet 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. Further, Multinet 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.[369]	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 Multinet, 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. 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. 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.
7.3(d)	GST	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.[370]	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 the

367 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 29-31.
368 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
369 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 31-32.
370 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.

		Multinet was not amenable to Origin's proposed amendment to clause 7.3(d). Multinet 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.[371]	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).[372] Multinet was not amenable to Origin's proposed deletion of clause 7.3(e). Multinet 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. Multinet noted that clause 7.2(e) is a standard GST clause.[373]	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.[374] While this submission was not directly relevant to Multinet's terms and conditions, Multinet responded to AGL's submission and noted that its change to monthly billing was made on the assumption of a NECF commencement on 1 January 2013. On the basis that NECF will not be implemented before the access arrangement takes effect and there is no new date, Multinet intends to revert to the previous cl. 7.4(a). Multinet	Multinet's intention to revert to the previous cl. 7.4(a) — which states that Multinet may invoice no more frequently than twice per month — until NECF commences in Victoria represents a variation to the clause as set out in Multinet's current access arrangement proposal, which provides for monthly invoicing. The AER considers, however, that cl. 7.4(a) as it is currently drafted in Multinet's proposed terms and conditions is consistent with the NGO and therefore should be retained.

371 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33.
372 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5.
373 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33.
374 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

	supports existing billing arrangements continuing until NECF commences and then monthly billing in line with NECF on a calendar month.[375]	
7.4(d)	AGL submitted that this clause should be extended to situations where the User is 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.[376] Multinet was not amenable to AGL's proposed amendments to clause 7.4(d). Multinet 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. Multinet 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. Multinet 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.[377]	The AER does not agree with AGL's submission that clause 7.4(d) should 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).

375 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 33-34.
376 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
377 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 34-35.

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. Multinet was amenable to Origin's proposed amendment.[378] 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.[379] Multinet did not agree with AGL's suggested variation to clause 7.4(g). Multinet 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. Multinet 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.[380]	Origin's submission is discussed in attachment 12, section 1.1.4 – *Distribution services: Invoicing payment and interest.* To the extent that AGL seeks amendments to this clause, the AER considers this a commercial matter best negotiated between the parties.
7.4(k)	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.[381] Multinet was not amenable to this suggestion. Multinet stated that the requirement has always been 10 Business Days and is consistent with the requirement post NECF. Multinet 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.[382] 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	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.

378 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 5-6.
379 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
380 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 35.
381 Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.
382 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36.

		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 date of issue on the invoice. AGL suggested reverting back to the original clause.[383] Multinet was not amenable to this suggestion. Multinet 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. Multinet are 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.[384]	
7.4(l)		APG requested that Austraclear be allowed as an additional payment method to bank deposit.[385] Multinet was not amenable to this suggestion. Multinet claims that it is not set up as a sub participant in Austraclear and therefore cannot accept payment by Austraclear. Multinet 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 Multinet has ceased using the system since July 2011. Multinet 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 Multinet to support Austraclear for payments made by only one retailer. If the situation changes during the next regulatory control period Multinet will contact APG.[386]	The AER considers this a commercial matter best negotiated between the parties.
7.7	Disputed Invoices	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. 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	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. The AER considers that until NECF commences in Victoria it is appropriate

383 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
384 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36.
385 Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 3.
386 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 36.

		invoices], those provisions will apply, regardless of whether such provisions have commenced operation in Victoria."[387] Multinet is not amenable to this suggestion. Multinet 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 Multinet fails to see how this is in any way inefficient. Multinet notes 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.[388]	to include a mechanism for dealing with disputed invoices in the terms and conditions. Multinet has drafted clause 7.7 so that it will cease to apply and be replaced by relevant NECF provisions upon its implementation in Victoria. As discussed in attachment 12, section 1.1.4 – *NECF* the AER considers this approach to be appropriate given the delayed commencement of NECF
7.8(m)	Credit Support-Bank Guarantee	Origin submitted that clause 7.8(m) is a duplication of the National Gas Rules and so can be removed. [389] Multinet is 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. [390]	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. 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.
8.2	Provision of Information	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	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. The AER does not agree with Origin's suggested change. The AER

387 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
388 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 37.
389 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.
390 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 37-38.

		is required and to discharge their obligations under privacy laws and the regulatory instruments. [391] Multinet was not amenable to this change. Multinet noted that this clause has been operating in its present form for many years. Multinet 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. [392] AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation) covers this obligation. AGL suggests 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." [393] Multinet was not prepared to contract as if NECF is in force. [394]	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. 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. As discussed in attachment 12, section 1.1.4 – *NECF* the AER considers this approach to be appropriate given the delayed commencement of NECF.
8.5	Changes in Information	AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation) covers this obligation. AGL suggests 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." [395] Multinet is not prepared to contract as if NECF is in force. [396]	As discussed in section attachment 12, section 1.1.4 – *NECF* the AER considers that the proposed approach is appropriate given the delayed commencement of NECF.
8.6	Accuracy of Information	AGL submitted that Division 2 of Part 5 of the NERR (Assistance and Cooperation) covers this obligation. AGL suggests deleting clause 8.6 and replacing it with: "Where	As discussed in attachment 12, section 1.1.4 – *NECF* the AER considers that the proposed approach is appropriate given the delayed

391 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.
392 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 38-39.
393 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
394 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 38-39.
395 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
396 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39.

		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." "[397] Multinet is not prepared to contract as if NECF is in force.[398]	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 suggests 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." "[399] Multinet is not prepared to contract as if NECF is in force.[400]	As discussed in attachment 12, section 1.1.4 – *NECF* attachment 12, section 1.1.4 – *NECF* 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.[401] Multinet is not amenable to this deletion. Multinet states that 9.1(a) deals with any inconsistency between the protocols in 9.1 and the relevant NECF requirements.[402]	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 requests Multinet to review clause 9.1 to ensure its consistency with Victorian law and regulation until such time as NECF is implemented. Specifically, APG requests the word 'negligent' be inserted in clause 9.1(j) before the words 'act or omission of the User'.[403]	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. The AER does not agree with Origin's submission that 9.1(j) be removed.

397 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
398 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39.
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. 39-41.
401 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.
402 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41.
403 Australian Power and Gas, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, p. 4.

		Multinet is not amenable to this change and it states that clause 9.1 sets out the current approach in Victoria for customer enquiries. Multinet understands 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.[404] 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 submits this clause be removed.[405] Multinet is not amenable to this change. Multinet states 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.[406]	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. 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. 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.
9.4(b)	Customer Details	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.[407] Multinet is amenable to AGL's suggested change, but notes that it was intended to be of assistance to Retailers.[408]	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. Notwithstanding Multinet's willingness to remove this phrase, the AER considers that it should be retained.
9.7	Enquiries or Complaints relating to the	AGL submitted that rule 101 of NERR (Enquiries or complaints relating to the retailer) should apply. AGL suggests deleting clause 9.7 and replacing it with: "Where a provision of the National Retail Energy Law or a supporting Regulatory	As discussed in attachment 12, section 1.1.4 – *NECF* the AER considers that the proposed approach is appropriate given the delayed

404 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41.
405 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.
406 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 39-41.
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. 41.

	User	Instrument regulates enquiries and complaints those provisions will apply, regardless of whether such provisions have commenced operation in Victoria."[409] Multinet is not amenable to this change. Multinet states 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 Multinet is not prepared to contract as if NECF is in force when it is not.[410]	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 suggests 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." [411] Multinet is not amenable to this change. It states 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 Multinet is not prepared to contract as if NECF is in force when it isn't. [412]	As discussed in attachment 12, section 1.1.4 – *NECF* 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. [413] Multinet is amenable in principle to shortening the clause. However, Multinet is not convinced that length in itself is a major issue. Multinet states that there are various Service Provider/User interactions required in the EWOV process and clarity of the relative obligations is more important than brevity.[414]	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 suggests 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

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. 42.
411 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
412 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 42.
413 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
414 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 42.

		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."[415] Multinet is not amenable to this change. Multinet states 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.[416]	each party's obligations acts to avoid uncertainty. This promotes the efficient operation and use of gas services, aspects of the NGO. 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 – *NECF.* 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. The AER notes that there has been no change to this proposed clause from Multinet's current Access Arrangement.
11.3	The Service Provider to Indemnify the User	AGL queried 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.[417] Multinet is amenable to the suggested deletion. Multinet note that the indemnity in 11.3 protects Users but have no objection to deleting 11.3 in its entirety.[418]	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. 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. Notwithstanding Multinet's willingness to remove this clause, the AER considers that it should be retained.
11.4	The User to Notify customer	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 obligations	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

415 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
416 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43.
417 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
418 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43.

	and the Service Provider	can be/ are communicated in the Service Provider/customer connection contract. AGL submits that clause 11.4 and Schedule 2 be deleted.[419] Multinet is not amenable to the suggested deletion. Multinet states that the new NECF deemed connection agreement with customers will not be enforceable until NECF is implemented in Victoria. Multinet states that it therefore cannot agree to remove this clause. Further, Multinet states that in any event, 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.[420]	are designed to promote the efficient operation and use of gas services, aspects of the NGO.
13.2 & 13.3	Liability of Supply	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. AGL's suggested amendment to clause 13.2 removes the reference to a 'deemed contract'. [421] Multinet states that it is not amenable to the suggested change. Mulitnet 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. Multinet notes that Service Providers have no control over what Users put in their contracts with customers. Multinet also states 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.	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. 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. 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. The AER considers that if a User wishes to remove the reference to a 'deemed contract' then this is a commercial matter best negotiated

419 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.
420 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43.
421 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

		Finally, Multinet states that Service Providers have no control over the terms and conditions in contracts reached between Users and customers.[422]	between the parties.
13.6(b)		AGL queries the necessity of this new sub-clause as it appears to limit previous indemnities and liabilities. AGL submits that clause 13.6(b) should be deleted.[423] Multinet states 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. Multinet claims that Victorian terms and conditions are significantly out of alignment with industry practice. Further, Multinet claims 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.[424]	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. 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.
13.6(b)(7)	Exemption of Liability	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 questions the need for this clause and proposes that it be removed.[425] Multinet is not amenable to this deletion. Multinet states that clause 13.6(b)(7) only applies to the indemnities in the terms and conditions. Multinet states 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. Multinet claim 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.[426]	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. The AER also notes that a number of indemnities throughout the

422 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 43-45.
423 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A
424 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48.
425 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6
426 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48.

			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. 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).
13.6(b)(8)		Origin submits 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. [427] Multinet stated, in respect of clause 13.6(b)(8), that Origin's comment is in error. Multinet claim 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.[428]	The AER does not agree with Origin's submission. 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. 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. 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.
14	Dispute Resolution	AGL queries 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.[429] Multinet is not amenable to this change. Multinet states that there needs to be some form of dispute resolution clause and that the IAMA are the more commonly used	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. In relation to the choice of rules, the AER considers that the rules proposed by Multinet are appropriate and any change to this is a commercial matter

427 Origin, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 28 June 2012, p. 6.
428 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 46-48.
429 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A.

		rules in Australia. Further, Multinet states that the IAMA rules are for domestic arbitrations whereas the ACICA rules are for international arbitrations.[430]	best negotiated between the parties.
Sch 1	Approved Form of Unconditional Undertaking	AGL submits that this Schedule is no longer necessary with the tri-partite relationship has requested that Schedule 1 be deleted.[431] Multinet was not amenable to this deletion. Multinet 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.[432]	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. The AER considers that it is important to have an effective credit support regime in place that will apply untiluntil NECF is adopted in Victoria.
Sch 2	Services other than Reference Services	AGL submits that this Schedule is no longer necessary with the tri-partite relationship has requested that Schedule 2 be deleted.[433] Multinet was not amenable to this deletion. Multinet states that the details listed in Schedule 2 (Sched 3 for Multinet) are not covered in the NECF deemed connection agreement and so the requirement will need to remain even post NECF.[434]	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.

430 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 48.
431 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A
432 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 49.
433 AGL, Submission to the AER: SP AusNet, Envestra and Multinet access arrangement proposals, 29 June 2012, Attachment A
434 SP AusNet/Multinet, Responses to retailer submissions, 20 July 2012, p. 49.