9 November 2012

Gas Access Arrangement Review January 2013-December 2017

Revised Proposal and Response to Draft Decision

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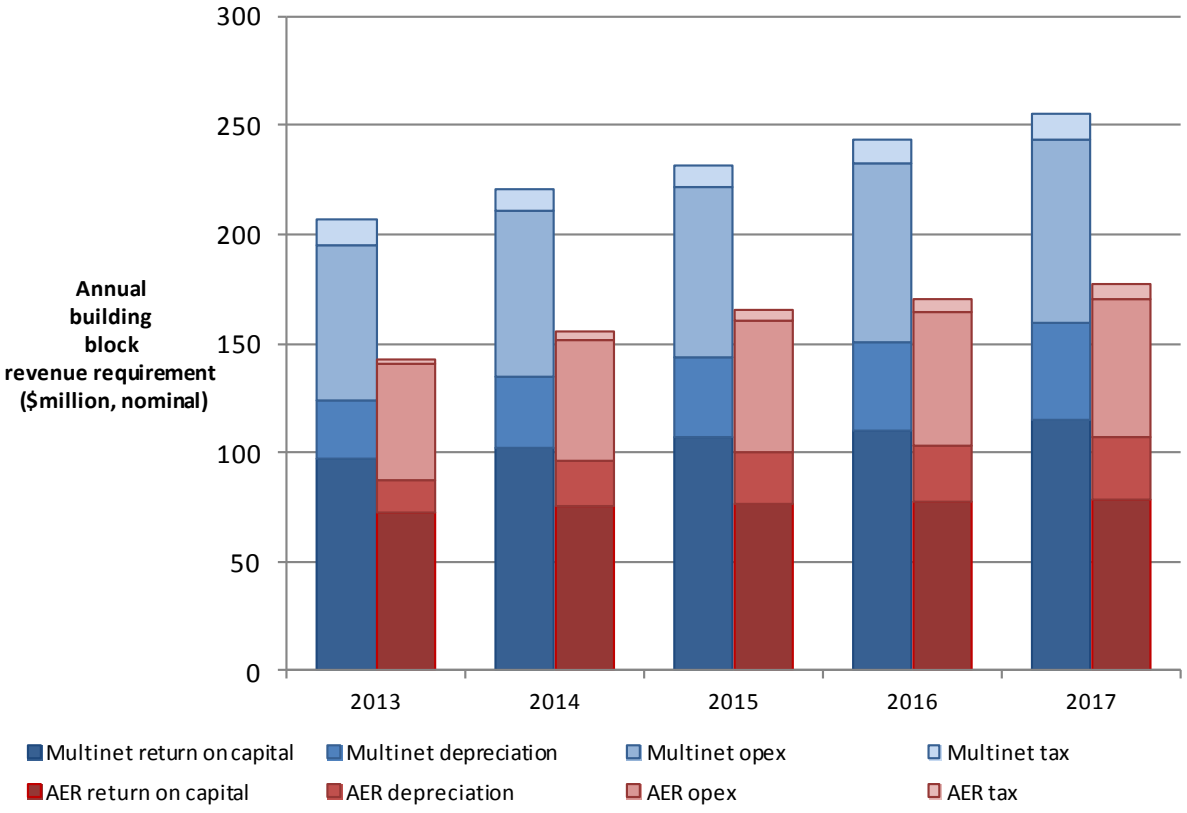
Introduction

This submission is Multinet's response to the AER's Draft Decision on the company's proposed access arrangement for the 2013-2017 regulatory period. The figure below reproduces Figure 3.2 from Part 1 of the Draft Decision. It shows the significant gap between Multinet's proposal and the AER's Draft Decision.

Figure E1: AER's draft decision and Multinet's proposed revenue requirement (unsmoothed), by building block ($million, nominal)



Source: AER analysis.

The AER's Draft Decision concluded that Multinet's current prices should be subject to a one-off reduction of 23.5%. In sharp contrast to the AER's very significant price reduction, Multinet's submission in March 2012 identified the need for a price increase of 14.7%. The AER's price reduction is driven principally by three issues:

- The AER's proposed allowance for the cost of equity equates to a market cost of equity that is more than 250 basis points lower than AER decisions for gas networks only 12 months ago.
- The AER proposes an operating expenditure allowance that is 25% below Multinet's forecast requirements.

- The AER proposes a capital expenditure allowance that is 53% lower than proposed by Multinet.

Each of these matters is briefly discussed in turn.

Cost of capital

While Multinet accepts many aspects of the AER's Draft Decision in relation to the cost of capital, our strongly held view is that the AER's cost of equity estimate is much too low. The commercial reality is that investment funding for regulated gas networks must compete with non-regulated alternatives. It must be remembered that investors do not have an intrinsic preference for regulated investments. Under the National Gas Law and Rules, the AER's estimate of the cost of equity must be commensurate with the prevailing conditions in the market for funds, so that sufficient capital continues to be available for investment in regulated infrastructure. The AER's proposed cost of equity is too low to meet this key requirement. The AER's proposal represents a disincentive for investment; it is contrary to the National Gas Objective, which is to promote efficient investment for the long term interests of consumers.

Multinet has looked to real world market information to demonstrate that the AER's cost of equity estimate is too low. To this end, Ernst & Young was engaged to undertake a comprehensive review of the independent expert reports on company valuations, published from January 2008 to October 2012. These independent expert reports provide a reliable source of market information on the cost of equity because companies are bought and sold on the basis of these valuations.

The Ernst & Young study provides compelling evidence that the AER's cost of equity estimate is too low and does not comply with rule 87(1). In particular:

- In 2012, without adjusting for the value of imputation credits, the market cost of equity (assuming a beta of 1) averages 10.7% whereas the AER's approach yields an average of 9.5% if it is applied at the same dates as the expert reports over 2012. When the value of imputation credits is taken into account the difference between the AER's cost of equity and the prevailing market cost of equity implied by independent experts is 220 basis points.

- The AER's estimated market cost of equity for the Victorian gas businesses is 8.98% (assuming a beta of 1), which is even lower than the computed AER average of 9.5% for 2012. The gap between the independent experts' average for 2012 (10.7%) and the AER's market cost of equity for Multinet (8.98%) is therefore 170 basis points, or 270 basis points if an adjustment is made for imputation credits.

In addition to the views of independent experts, it is instructive to consider the views of investors themselves. A recent submission from the Financial Investor Group to the AEMC highlighted investors' concerns that recent regulatory decisions have produced cost of equity estimates that are unprecedentedly low, and which do not accord with capital market expectations. These statements provide further market intelligence that the actual cost of equity substantially exceeds the AER's current estimates.

To understand why the AER has made an error in its estimation of the cost of equity, Multinet has obtained two internationally respected finance professors, Stephen Wright and Alan Gregory, both of whom have extensive experience of regulation in the UK as advisors to regulators and the regulatory appeals body. Multinet asked both experts to consider the approach applied by the AER in the Draft Decision, given the Rules requirements relating to the cost of capital, and in light of UK regulatory practice and finance theory.

Both experts separately and independently identified the same error in the AER's estimation of the cost of equity. Professor Gregory explains the error as follows:[1]

> "In summary, my view is that the AER is in error in its assessment of the cost of equity capital for the Gas Businesses and has significantly under-estimated that cost of equity.
>
> It has made such an error because it has been inconsistent in its approach to estimating the market risk premium (MRP) and in doing so has combined two different measures of the risk free rate into its Capital Asset Pricing Model (CAPM) estimate of the cost of equity. In my view, combining such different measures is illogical and is therefore "unreasonable", in the sense set out in paragraphs 50-55 of the Australian Competition Tribunal's Decision of 11th January 2012."

Professor Wright also identified this error, and has pointed to the potentially serious consequences in the Australian context:[2]

> "The AER, by assuming that the risk premium is constant, and hence that the cost of equity capital has simply followed the risk free rate down point by point, has in my view made a clear error.
>
> This behaviour is particularly inappropriate in the Australian context. By assuming a lower cost of capital, the AER is imposing a lower return on capital for the regulated company, at a time when profitability, and hence returns of unregulated companies are at a cyclical high, which is in turn inducing very strong investment. This puts regulated companies at a potentially severe disadvantage compared to unregulated companies, and implies the serious risk that regulated companies will under-invest."

Previously, the AER has not been persuaded by independent expert evidence on the cost of equity. However, the opinions of Professor Wright and Professor Gregory are unequivocal that the AER has made an error in its estimate of the cost of equity.

From an investor perspective, it does not matter how the AER chooses to correct the error. It is open to the AER to revisit the MRP estimate and adopt a value that is consistent with a spot measure. Multinet has provided further evidence on the MRP to assist the AER should it decide to amend its MRP estimate. Alternatively, as explained in this proposal, it is open to the AER to adopt a long-term average of the risk free rate, and combine this estimate with a long-term average of the MRP (that is, 6%). The later approach is Multinet's proposal. A more detailed summary of Multinet's response on the cost of capital is provided in the overview of chapter 6, at section 6.1.

Operating expenditure

The AER's Draft Decision rejected Multinet's operating expenditure forecasts, and has imposed a reduction of approximately 25% or $92 million compared to Multinet's original forecast. Multinet regards the AER's proposed operating expenditure allowance as unrealistic and unsustainable.

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[1] Professor Alan Gregory, The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, paragraphs 4 and 5.

[2] Professor Stephen Wright, Review of Risk Free Rate and Cost of Equity Estimates: A Comparison of UK Approaches with the AER, page 3.

In the forthcoming access arrangement period, the task of forecasting Multinet's operating expenditure is relatively complex. This is because Multinet has embarked on a new business model to replace the existing outsourcing contract (OSA) with Jemena Asset Management (JAM), which expires on 30 June 2013. The new business model is fundamentally different to the existing OSA in the following respects:

- In future, Multinet will not contract with a single service provider under a fixed price contract. Instead, specialist service providers will be engaged on best practice terms and conditions.
- Competitive tender exercises have been conducted to select the most efficient service providers for Network Operations, IT Services, and Customer and Market Services.
- A two region model will apply to the provision of Network Operations services so that service providers compete with one another.
- Multinet will undertake a number of planning and strategic functions on an in-house basis to improve governance and risk management.

Multinet maintains its view that the best forecasting approach – as required by the Rules – must take account of the best available, forward-looking information. Grant Thornton, which is a highly respected global accounting firm, has confirmed that Multinet's forecasting approach must be adopted in order to comply with the Rules.

In its Draft Decision, the AER rejected Multinet's forecasting approach and the resulting operating expenditure forecasts. However, the AER's reasons for rejecting Multinet's forecasts are either wrong or unreasonable. For example:

- The AER claims that the transitional provisions in the Rules require it to use a 'base year' approach. Multinet's view, however, is that the Rules do not mandate any forecasting method. Furthermore, the AER's approach is inconsistent with the Rules.
- The AER claims that Multinet's forecasts were not substantiated. However, Multinet's original proposal was supported by 28 appendices, which included numerous independent expert reports that verified the input assumptions and resulting forecasts.
- The AER's confidential appendix 4[3], which formed part of the Draft Decision, seeks to explain why it cannot accept the outcomes from the competitive tender exercise. However, the appendix contains illogical and confused reasoning to support its conclusions. The appendix also suggests that the new business model will continue to employ fixed price contracts, when this is not the case. The AER's confused reasoning and factual error in this appendix may have led it into error.

Having rejected Multinet's operating expenditure forecasts, the AER's alternative forecast is based on Multinet's actual operating expenditure in 2011. However, the AER's forecast makes the invalid assumption that JAM will continue to operate on a loss-making basis or make cost savings to return a reasonable profit margin. There is no basis for the AER's assumption. In fact, this

[3] Given the confidential nature of this appendix, it is not discussed further in this revised proposal.

revised proposal provides testimony to the effect that JAM's costs are already below a sustainable level.

Professor Williams of Frontier Economics has reviewed the AER's Draft Decision. Professor Williams has highlighted illogical reasoning in the AER's approach. He has also noted that the AER's concurrent Draft Decision for Envestra allows its service provider, APA, to earn a margin of 6.4%. While that decision may well be reasonable, it conflicts with the AER's view that Multinet's service provider should be capable of continuing to operate at a loss. The AER's own benchmarking information shows Multinet to be a superior cost performer than Envestra, which makes the AER's approach even more unreasonable.

Although there are major problems with the AER's alternative forecast, Multinet recognises the need to address the criticisms made by the AER regarding Multinet's original forecasts. This revised proposal has therefore revisited the operating expenditure forecasts with the assistance of different independent experts to those originally appointed by Multinet. The appointment of new independent experts is intended to provide a 'clean slate' approach to the forecasts and to ensure that any deficiencies with the original forecasts are addressed.

This process of further review by different experts – which is unprecedented in regulatory processes in Australia – has resulted in a reduction of approximately 4% in Multinet's total forecast operating expenditure from the amount submitted in March 2012. The independent experts have confirmed that in their opinion the revised forecasts comply with the Rules requirements. For the reasons outlined in this submission, the AER should now accept Multinet's forecast operating expenditure. A more detailed summary of Multinet's response on operating expenditure is provided in the overview of chapter 2, at section 2.1.

Capital expenditure

Multinet originally proposed a total capital expenditure allowance of $389.7 million. The Draft Decision rejected that forecast and instead adopted a total capital expenditure allowance of $198.4 million. The allowance proposed by the Draft Decision is approximately 50% below the forecast provided by Multinet.

This is a very significant reduction, and it sets an expenditure allowance for the next period which is below the level of capital expenditure actually incurred by Multinet in the current period, during which the availability of capital was constrained due to the global financial crisis.

With the exception of customer contributions, the Draft Decision proposes very significant reductions in Multinet's capital expenditure forecasts across all categories including mains replacement; augmentation; residential connections; commercial / industrial connections; meters; information technology and SCADA.

If the Draft Decision is implemented, and Multinet's investment is, as a consequence constrained to that low level, then the AER can expect that:

- Multinet will be placed in a position of being potentially unable to fulfil all of its obligations under the Rules; and
- very significant capacity-related supply interruptions will be experienced over a wide range of Multinet's territory in the next access arrangement period and potentially for several years into the following period.

Multinet has thoroughly reviewed its proposed capital expenditure program in light of the Draft Decision. Multinet has also considered whether the program proposed by the AER is consistent with the Rules requirements. Multinet has not adopted the Draft Decision's capital expenditure allowance because it fails to meet the requirements of rule 79.

Multinet recognises that parts of its original submission did not, in the AER's view, contain sufficient information to enable the AER to consider Multinet's proposals, and so additional detailed information is provided by Multinet as part of this response. That information includes independent expert reports from AECOM and Asset Integrity Australia, which conclude that Multinet's volume forecasts are consistent with the scope of work 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.

Multinet's revised total capital expenditure forecast for the forthcoming access arrangement period is $321.0 million. This forecast is 17.6% lower than Multinet's original forecasts, principally due to: reductions in the length of pipeline that Multinet now proposes to replace under its Pipeworks program over the next 5 years; reductions in the average unit rate applying to new connections (due to a change in the assumed mix of new connection works); and reductions in the forecast volumes and unit rates for residential meter replacement.

The information set out in this revised proposal demonstrates that Multinet's revised capital expenditure forecast:

- has been arrived at on a reasonable basis, and represents the best forecast or estimate possible in the circumstances (in accordance with rule 74); and
- is consistent with the capital expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services (in accordance with rule 79).

Revised Proposal

The following tables summarise Multinet's revised proposal.

Multinet's Revenue Requirements ($m, real 2012)

	Year Ending 31 December					
	2013	2014	2015	2016	2017	Total
Return on capital base	55.8	57.9	57.7	57.6	58.4	287.3
Depreciation	46.2	52.7	54.9	57.0	59.7	270.5
O&M Expenditure	65.0	69.7	71.1	70.4	69.8	346.0
Less ancillary services	-1.4	-1.5	-1.5	-1.5	-1.5	-7.3
Tax Wedge	7.3	6.7	7.1	7.7	8.7	37.5
Total revenue	**172.8**	**185.5**	**189.3**	**191.3**	**195.0**	**933.9**

Multinet's Proposed Price Increase

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Price Path	-0.75%	0.00%	0.00%	0.00%	0.00%
Smoothed Price path	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%

Overview of Multinet's forecast operating expenditure ($m, real 2012)

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
Network Operations	33.7	37.8	39.1	38.4	37.9	186.9
Customer and Market Services	10.2	9.5	9.4	9.3	9.3	47.6
IT Services	7.9	8.1	8.0	8.0	7.9	39.8
Corporate Services and Other Internal Costs	12.5	13.8	14.1	14.1	14.1	68.7
Total	**64.4**	**69.2**	**70.5**	**69.8**	**69.2**	**343.0**

Categories of capital expenditure and overview of expenditure forecast ($m, real 2012)

	YEAR ENDING 31 DECEMBER					Total 2013-17
	2013	2014	2015	2016	2017	
Customer initiated	23.9	20.1	17.0	16.8	16.9	94.7
Pipe works	13.6	3.1	13.0	25.2	7.9	62.8
Replacement	9.2	7.5	5.9	5.9	6.2	34.7
Metering	4.3	3.3	3.0	2.4	2.7	15.7
Demand-related	10.1	8.2	7.4	7.7	8.5	42.0
Performance	1.5	1.7	2.6	5.9	3.9	15.6
IT and SCADA	30.0	7.0	5.0	7.3	3.1	52.3
Non network – Other	3.3	0.0	0.0	0.0	0.0	3.3
Total (Gross)	**95.8**	**50.7**	**53.9**	**71.3**	**49.2**	**321.0**
Less contributions	11.6	4.3	1.6	1.6	1.6	20.7
Net capital expenditure	**84.2**	**46.4**	**52.3**	**69.7**	**47.6**	**300.3**

Projected capital base for the forthcoming Access Arrangement Period ($m, real 2012)

	Period Ending 31 December				
	2013	2014	2015	2016	2017
Opening capital base	1,046.2	1,086.5	1,081.5	1,080.3	1,094.8
Conforming capital expenditure	86.4	47.7	53.7	71.5	48.9
Forecast depreciation	46.2	52.7	54.9	57.0	59.7
Disposals and surcharges	0.0	0.0	0.0	0.0	0.0
Closing capital base	**1,086.5**	**1,081.5**	**1,080.3**	**1,094.8**	**1,083.9**

Multinet's proposed UAFG benchmarks

	Period Ending 31 December				
	2013	2014	2015	2016	2017
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	4.4%	4.4%	4.4%	4.4%	4.4%
Non- PTS	3.0%	3.0%	3.0%	3.0%	3.0%

Annual forecast of gas volumes, 2013 to 2017

Category	Year Ending 31 December				
	2013	2014	2015	2016	2017
Tariff V – residential (GJs)	39,074	38,753	38,592	38,519	38,446
Tariff V – commercial (GJs)	5,564	5,515	5,487	5,472	5,457
Tariff L (GJs)	192	235	276	317	359
Total energy (GJs)	44,830	44,503	44,354	44,308	44,262
Tariff D and L (MHQs)	**3,546**	**3,509**	**3,482**	**3,466**	**3,451**

Multinet's forecast customer numbers, 2013 to 2017

Category	Year Ending 31 December				
	2013	2014	2015	2016	2017
Opening	679,027	684,660	690,201	695,786	701,063
Plus new connections	8,797	8,809	8,768	8,439	8,323
Less abolishments	3,164	3,269	3,182	3,162	3,200
Closing balance	**684,660**	**690,201**	**695,786**	**701,063**	**706,187**

1. Introduction

1.1 Purpose of this Document

On 30 March 2012, Multinet Gas (DB No 1) Pty Ltd and Multinet Gas (DB No 2) Pty Ltd trading as Multinet Gas Distribution Partnership ('Multinet' or 'Service Provider') submitted to the Australian Energy Regulator (AER) a revision to the Access Arrangement approved by the Essential Services Commission in May 2008. In accordance with rule 42(1) of the National Gas Rules (the Rules), Multinet also submitted Access Arrangement Information (AAI), which explained the background to and the basis of the proposed revisions.

On 24 September 2012, the AER published its Draft Decision on Multinet's Access Arrangement proposal. The AER's Draft Decision proposed a total revenue allowance for Multinet of $781.9 million (nominal) over the 2013–17 access arrangement period, which is approximately 32 per cent below the amount proposed by Multinet.

The AER's reduction in Multinet's proposed revenue is driven primarily by:

- the rate of return, which the AER estimates to be 7.16 per cent compared to Multinet's estimate of 9.06 per cent;
- forecast net capital expenditure, which the AER has reduced by 52.5 per cent from Multinet's forecast of $409.6 million to $194.7 million, expressed in nominal terms; and
- forecast operating expenditure, which the AER has reduced by 30.1 per cent from Multinet's forecast of $391.3 million (nominal) to $273.6 million, expressed in nominal terms.

The Draft Decision also required a number of other amendments to be made to Multinet's Access Arrangement proposal.

This document explains Multinet's revised Access Arrangement proposal in response to the Draft Decision. In accordance with the provisions set out in rule 60 of the Rules, Multinet's revised Access Arrangement proposal sets out additions or other amendments to the Access Arrangement proposal to address matters raised in the Draft Decision.

1.2 Structure of Documentation

The documentation for this revision to Multinet's Access Arrangement proposal comprises the Access Arrangement and this response to the Draft Decision.

1.2.1 Access Arrangement

The Access Arrangement comprises of three sections:

- Part A – The Principal Arrangements. This part sets out the principal policy statements in relation to pipeline services; capacity management; and network extensions and expansion. It also includes review and expiry arrangements and a glossary.
- Part B – Reference Tariffs and Reference Tariff Policy. This part sets out the details of the reference tariffs and the basis for their annual adjustment. Part B also sets out

Fixed Principles that are binding on the AER and the service provider for a specified period.

- Part C – Terms and Conditions. This Part sets out the terms and conditions on which Multinet will supply each Reference Service.

In accordance with the requirements of rules 60(2) and (3), the Access Arrangement provided by Multinet in response to the Draft Decision:

- is a revised Access Arrangement containing all the amendments Multinet proposes to make in response to the Draft Decision; and
- contains amendments to Multinet's original Access Arrangement proposal that are limited to those necessary to address matters raised in Draft Decision.

1.2.2 Response to the Draft Decision

This response to the Draft Decision provides a comprehensive explanation of Multinet's revised Access Arrangement in light of the issues arising from the Draft Decision. In accordance with the requirements of rule 42, this document is intended to provide the information that is reasonably necessary for users and prospective users:

- to understand the background to the revised Access Arrangement; and
- to understand the basis and derivation of the various elements of the revised Access Arrangement.

This document should be read in conjunction with the AAI submitted by Multinet with its original Access Arrangement proposal.

1.3 Contact details

Information on the pipeline to which this Access Arrangement Information relates is available from Multinet's website at: www.multinetgas.com.au

The contact officer for further details on this Access Arrangement Information is:

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General Manager Regulation
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2. Forecast Operating Expenditure

2.1 Overview

The AER's Draft Decision does not accept Multinet's operating expenditure forecasts. Instead, the AER has developed its own 5 year forecast that is approximately 25 per cent or $92 million lower than Multinet's forecast.

Multinet regards the AER's proposed operating expenditure allowance as unrealistic and unsustainable. If implemented, it will have a materially negative impact on Multinet customers. It will directly lead to poor service outcomes for customers because the allowance will constrain Multinet's expenditure to unsustainably low levels. It will also severely damage investor confidence in the network sector.

To put the magnitude of the AER's proposed reduction into context, it is equivalent to reducing Multinet's original forecast operating expenditure to zero for:

- IT Services; and
- Customer and Market Services.

Of course, this outcome is not possible or sustainable.

The purpose of this chapter is to explain why the AER's conclusions are wrong, and also to address fully the AER's criticisms of Multinet's original forecasts. The chapter presents revised total operating expenditure forecasts that are approximately 4 per cent lower than our original forecast submitted in March, but approximately 22 per cent higher that the AER's Draft Decision.

The Rules and the National Gas Law provide clear guidance on how operating expenditure forecasts should be determined. The key points to note are set out below:

- Forecasts must represent the best forecast or estimate possible in the circumstances (rule 74(2)(b)).
- A forecast of operating expenditure for each year is one of the building block components for determining total revenue (rule 76(e)).
- 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 (rule 94).
- A service provider should be provided with a reasonable opportunity to recover at least its efficient costs (National Gas Law, section 24(2)).

The AER's forecasting methodology and the resulting allowance are inconsistent with the Rules and the National Gas Law. To understand why this is the case, it is necessary to recap on Multinet's particular circumstances and the changes that are currently being made to Multinet's business model.

Since 2003, Multinet's business model has been centred around a single fixed price operating services agreement (OSA) with Jemena Asset Management (JAM). In recent years, however, the fixed price nature of the contract has created problems for both Multinet and JAM.

- For Multinet, managing the fixed price OSA requires close scrutiny of JAM's service performance and network planning. Without this scrutiny, JAM will naturally prefer to take a short-term perspective, which may be contrary to Multinet's interests and those of its customers. Unfortunately, the OSA does not require JAM to provide detailed information regarding its cost and service performance, nor does the OSA provide commercial incentives for JAM to work collaboratively with Multinet.

- For JAM, the OSA is not viable because the fixed fee paid by Multinet does not cover JAM's costs. JAM has incurred losses despite the very strong commercial incentives it has to minimise costs. As noted above, these incentives - as well as the opportunity to reduce costs - are further strengthened by Multinet's restricted ability to scrutinise JAM's planning and service performance.

Regulatory problems also surrounded the OSA contract. During the 2003-2008 regulatory period, Alinta Asset Management (AAM) – JAM's predecessor – earned a profit from the OSA. However, the ESC refused to accept that Multinet should be allowed to recover the OSA fee. The ESC argued that the OSA fee was struck as part of a larger series of corporate transactions, and therefore it could not be taken to be a legitimate operating cost. Multinet's Board could not allow this situation to persist and therefore the Board explored options to develop a new business model. Importantly, the Board insisted that management must satisfy the regulatory requirement to establish any outsourced contracts through competitive tender.

The OSA is due to expire on 30 June 2013, which is only 6 months after the commencement of the forthcoming access arrangement period. The problems outlined above explain why the OSA will not be renewed.

Multinet's original proposal provided a detailed explanation of Multinet's new business model. The choice of business model was informed by advice from outsourcing experts, AT Kearney, and Multinet's own experience. The new business model is fundamentally different to the existing OSA in the following respects:

- In future, Multinet will not contract with a single service provider under a fixed price contract. New contractual terms and conditions will align the commercial interests of the service providers to Multinet's.

- Competitive tender exercises have been conducted to select the most efficient service providers for Network Operations, IT Services, and Customer and Market Services.

- A two region model will apply to the provision of Network Operations services. By selecting a service provider for the North and South regions, long term efficiency improvements will be achieved as service providers compete with one another.

- Multinet will undertake a number of planning and strategic functions on an in-house basis. This resourcing approach ensures that Multinet has the internal capability to manage a more complex business model and to undertake network planning and strategic planning effectively.

Multinet's original proposal provided the AER with substantial information regarding its new business model, including the tendered prices and volumes; internal resource requirements and salary estimates; and system requirements. As noted above, the Rules require that a forecast must "represent the best forecast or estimate possible in the circumstances". Multinet therefore adopted a bottom up forecast that utilised the best available information, including the outcome from competitive. In this revised proposal, the global accounting firm, Grant Thornton, provides an independent expert opinion that Multinet's bottom up approach represents the best forecast or estimate possible in the circumstances. Multinet's original proposal was supported by 28 appendices, which included numerous independent expert reports that verified the input assumptions and resulting forecasts.

The AER has raised a number of criticisms of Multinet's original operating expenditure forecasts. We will return to these criticisms shortly. Essentially, however, the AER expressed a lack of confidence in Multinet's forecast and proceeded to adopt its own alternative forecast.

The AER's alternative forecast is based on Multinet's actual operating expenditure in 2011. In effect, the AER's approach effectively ignores information about the future, in preference for information about the past. Such an approach would be reasonable if there is no reason to suppose that the future will be different to the past. However, in Multinet's circumstances there are strong reasons to expect the future to be different.

Specifically, for the reasons summarised above, the OSA contract terms and conditions are not sustainable and will not be renewed. It is inconceivable that JAM would continue to provide services at a loss. In fact, Multinet has provided confidential information to the AER that indicates the substantially increased fee that JAM would require if the OSA were to be renewed. It is a major concern, therefore, that the AER assumes that the OSA fee provides an appropriate basis for determining Multinet's future operating expenditure allowance. It is noteworthy that the AER's conclusion on this matter is the direct opposite of the approach adopted by the ESC. As explained above, the ESC refused to accept the OSA fee and instead adopted JAM's costs. Now that JAM is making a loss, rather than a profit, the AER is adopting the opposite view to the ESC. The AER argues that the transitional provisions in the Rules require it to adopt the ESC's model, but in relation to this important matter it has not done so.

Professor Williams of Frontier Economics has reviewed the AER's reasoning that the existing outsourcing fee paid by Multinet provides a reasonable basis for forecasting Multinet's operating expenditure. Professor Williams has identified a number of logical inconsistencies in the AER's reasoning. In addition, Professor Williams has highlighted inconsistencies between:

- The AER's approach to Multinet and its earlier approach for United Energy, in which the AER derived forecasts by projecting forward from the service provider's costs; and

- The AER's Draft Decision that a negative margin should be allowed for Multinet's service provider, JAM, but a positive profit margin should be allowed for Envestra's service provider, APA.

These inconsistencies are a significant concern given that:

- Multinet and United Energy's circumstances are essentially the same, as both companies are moving from a loss-making OSA with JAM to a new business model; and

- Multinet's recent performance is described by the AER as being comparable to Envestra Victoria[4].

In light of the above, the AER's forecasting approach and resulting operating expenditure allowance fail to satisfy the Rules and the National Gas Law in the following respects:

- The AER's approach does not reflect Multinet's business model and contractual arrangements in the forthcoming access arrangement period, and therefore the expenditure allowance derived by the AER does not constitute a forecast as defined by rules 74(2)(b) and 76(e).

- Basing a forecast on the existing OSA fee produces an operating expenditure allowance that is below the minimum sustainable cost of providing reference services, and is therefore inconsistent with rule 94.

- The operating expenditure allowance does not provide Multinet with a reasonable opportunity to recover its efficient costs, and is therefore inconsistent with section 24(2) of the Law. This is because Multinet would be required to achieve very substantial efficiency gains before it is able to recover its costs. The AER has assumed that these efficiencies can be achieved, even though JAM has been unable to achieve them despite its strong commercial incentives to do so. Moreover, the AER has provided no evidence to support its assumption.

Having established the serious shortcomings with the AER's alternative forecast, Multinet recognises the need to address the criticisms made by the AER regarding Multinet's original forecasts. For example, Multinet accepts that - until now - it has been unable to provide substantiation that JAM has engaged in unsustainable cost cutting or 'cost overshooting'. Multinet's difficulty in providing this substantiation is an illustration of the information and governance issues it has encountered under the OSA. In this revised proposal, however, Multinet has provided evidence that JAM's staffing levels in recent years would be insufficient to sustain Multinet's long-term network performance.

In this revised proposal, Multinet has systematically addressed all of the matters raised by the AER in its Draft Decision. In particular, Multinet has commissioned new independent experts to revisit all the assumptions and analysis that underpin Multinet's original forecasts. The new experts have focused on volume forecasts; internal resource requirements; and an assessment of the overall operating expenditure forecasts in accordance with the Rules requirements.

There is no doubt that this further review process has delivered improvements to the forecasts. By their nature, all forecasts are subject to error and uncertainty. Multinet's original forecasts were finalised 11 months ahead of the start of the forthcoming access arrangement period. As with all businesses, forecasts are refined to reflect the availability of new and better information. Where information gaps or errors have been identified in the original forecasts, these have been corrected. As already noted, Multinet's current forecasts are approximately 4% lower than those submitted in March 2012.

[4] AER. Draft Decision, Part 2, page 148.

In relation to UAFG, Multinet is concerned that the benchmarking arrangements remain unresolved. It is a requirement for the proper functioning of the Victorian gas market that this matter be resolved satisfactorily. Multinet has held discussions with the Victorian Government and the AER, in an effort to progress a resolution of these matters. At this time, a satisfactory resolution has not been reached. Multinet will continue to work constructively towards a satisfactory resolution. In the event that this matter is not resolved, Multinet proposes the application of cost pass through arrangements to ensure the company is able to fully recover all costs associated with the operation of a UAFG scheme.

In summary, Multinet considers that its revised proposal, together with the earlier material already submitted, provides the most comprehensive and detailed substantiation of an operating expenditure forecast by any regulated company in Australia. In making this observation, Multinet notes that accounting firm Grant Thornton has provided an independent expert report stating that in its opinion Multinet's revised operating expenditure forecasts meet the requirements of rules 74(2) and 91.

Multinet accepts that the AER wants to understand why the company's operating expenditure forecasts are higher than its historic costs. In our view, the AER's base year approach – properly applied – can be used to check whether Multinet's new business model is superior to a continuation of an OSA-style fixed price contract with a single service provider. This revised proposal presents this analysis.

The information presented in this revised proposal provides the best central forecast of the company's total operating expenditure forecasts over the forthcoming access arrangement period, in accordance with the requirements of rules 74 and 91. Multinet's revised forecasts must be accepted by the AER in accordance with the provisions set out in rule 40(2).

2.2 Draft Decision and issues arising

The table below reproduces the information presented in Table 9.1 of the Draft Decision[5]. It compares the AER's Draft Decision to Multinet's proposal for each year of the forthcoming access arrangement period. It shows the total difference is $92.4 million, expressed in 2012 prices.

Table 2-1: Comparison of AER draft decision to Multinet forecast ($m, real 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: Draft Decision Part 1, Table 9.1

[5] AER, Draft Decision, Part 1, page 46.

The AER's Draft Decision provided the following high-level reasoning for not accepting Multinet's operating expenditure forecasts[6]:

> "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. 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."

In this revised proposal, Multinet will address each of these points in detail. Multinet does not accept the AER's analysis or conclusions. Multinet remains committed, however, to providing additional information wherever possible to bridge any information gaps that still remain and to address the AER's concerns.

Rule 91(1) and the revenue and pricing principles require Multinet to be provided with an operating expenditure allowance that is consistent with efficient and sustainable levels of expenditure. However, it is clear from the information presented in this revised proposal that the AER's Draft Decision would not provide a sustainable outcome. This fact can be illustrated at a high level by considering the magnitude of the reduction in operating expenditure proposed by the AER alongside the expenditure forecasts for the four categories of operating expenditure presented in Multinet's original proposal in March 2012 (shown in the table below).

Table 2-2: Overview of Multinet's original (30 March 2012) operating expenditure forecast ($m, real 2012)

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
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**
IT Services	8.0	8.3	8.1	8.1	8.1	**40.6**
Corporate Services and Other Internal Costs	14.8	14.8	15.1	16.2	16.1	**77.0**

[6] AER, Draft Decision, Part 2, page 135

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
Total	**69.4**	**72.2**	**72.7**	**74.1**	**74.4**	**362.7**

The table above puts the AER's proposed reduction of $92 million over 5 years into context. The cut proposed by the AER is equivalent to a 25 per cent reduction across all expenditure categories; or a zero allowance for Customer and Market Service and IT Services combined. It is inconceivable that reductions of this magnitude could be delivered while achieving the National Gas Objective, which is[7]:

> "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."

A reduction of the magnitude proposed by the AER would have a direct impact on customers as the company seeks to make savings to ensure that it can recover its costs. Inevitably, reductions of this magnitude will impact the quality of the services provided. Secondly, if investors are unable to recover their operating expenditure, the expected rates of return will be lower than the cost of capital. Chapter 6 of this revised proposal separately addresses cost of capital issues. For the purposes of this chapter, however, it would be wrong to conclude that the operating expenditure allowance has no impact on investment incentives.

In this chapter Multinet explains that the AER has made very significant errors in its assessment of the company's operating expenditure forecasts. These errors have led the AER to develop an alternative forecast that lacks credibility, is unsustainably low, and fails to meet the requirements of the Rules and the National Gas Law.

Multinet also accepts, however, that improvements can and should be made to its original operating expenditure forecasts. By their nature, forecasts are subject to uncertainty and error, and there is no limit to the quantity of information that can be provided (albeit with diminishing returns) to improve the verification and substantiation of the forecast amount. That said, Multinet wishes to emphasise the following points:

- The level of verification and support provided by Multinet in its original AAI and in this revised proposal is far greater than would normally be required by a board in order to approve a company's own forecasts – with that board operating under Corporations Law. Indeed, the level of detail provided by Multinet to the AER is, arguably, higher than that required to support a shareholder vote for a merger or acquisition under Corporations Law. These considerations are particularly pertinent in light of the AER's conclusion that the company's operating expenditure forecasts were not substantiated - a matter that is addressed in further detail below. They are also very relevant when the AER's reasons for rejecting the independent analysis provided by GHD are examined (in section 2.5.1 below).

[7] National Gas Law section 23.

- Multinet submits that the AER should exercise caution to ensure that it does not impose a standard of verification or proof that cannot reasonably (or even possibly) be met by Multinet. We contend that the architects of the National Gas Rules could not have intended that the term 'forecast' be interpreted in a way that would make it impossible in practice for a firm to prepare a forecast of its operating expenditure that would in the AER's opinion satisfy rules 74 and 91.

- In contrast to the extremely high standard that the AER is applying to Multinet's forecasts, the AER applies a very low standard to establishing its alternative forecasts. As explained in detail throughout this chapter, the AER's forecast is based on the incorrect assumption of a steady state business. A simple projection of historical costs does not provide a reasonable basis for developing forecasts that represent the best forecast or estimate possible in the circumstances, as required by rule 74.

Notwithstanding the above considerations,, Multinet has appointed new independent experts to provide a fresh assessment of the company's original forecasts, in light of the AER's criticisms and concerns. Multinet's objective is to ensure that the revised operating expenditure forecasts comply fully with the Rules. There is no doubt that this further checking process has delivered improvements to the forecasts.

In this context, it is noted that Multinet engaged Grant Thornton to review Multinet's revised operating expenditure forecasts, and to provide an independent expert opinion as to whether those forecasts meet the requirements of rules 74 and 91. Grant Thornton is a highly respected independent expert, with extensive experience in providing expert reports under the Corporations Law to support mergers and acquisitions of publically listed companies. We do not consider that there are any reasonable grounds on which the AER could not accept Grant Thornton's independent expert opinion.

Before turning to the detail of Multinet's response to the Draft Decision, Multinet wishes to respond further to the AER's conclusion that the company's operating expenditure forecasts were not substantiated. The following table lists the 28 appendices in Multinet's original proposal that were specifically concerned with the substantiation of the operating expenditure forecasts. In Multinet's view, the quality and amount of information already submitted in support of its operating expenditure forecasts is unprecedented in any regulatory review in Australia.

Table 2-3: Supporting information previously submitted by Multinet

Ref	Report Title	Status
C-3	SKM Material Escalators	Public
C-5	Marchment Hill International Benchmarking	Public
C-6	Economic Insights – Benchmarking the Victorian Businesses	Public
C-7	Economic Insights – TFP	Public
C-9	BIS – Real Cost Escalators	Public
C-10	Geoff Nunn labour report No. 1	Commercial in Confidence
C-11	Geoff Nunn labour report No. 2	Commercial in Confidence
C-12	Geoff Nunn labour report No. 3	Commercial in Confidence
C-13	KPMG Operating Expenditure Forecasts	Public
C-14	ATK Internal benchmarking	Commercial In Confidence
C-15	GHD – Review of Network AMP	Public
C-16	GHD – Review of historic expenditure	Public
C-17	GHD – Review of Operating and maintenance forecasts	Public
F-1	Jemena OSA	Commercial In Confidence
F-2	Amending Deed	Commercial In Confidence
F-3	IT Delivery Agreement	Commercial In Confidence
F-4	EPG Agreement	Commercial In Confidence
G-1.1	Network EOI	Public
G-1.2	Network RFP	Public
G-1.3	Network TCE Agreement	Commercial In Confidence
G-1.5	Board Approval	Commercial In Confidence
G-1.6	Board Attachment	Commercial In Confidence
G-2	CMS Probity Report	Commercial In Confidence
G-2.1	CMS EOI	Public
G-2.2	Board Approval	Commercial In Confidence
G-3	IT Probity Report	Commercial In Confidence
G-3.1	IT EIO	Public
G-3.2	Board Approval	Commercial In Confidence

In addition to the information listed above, the AER's review process provided an opportunity for the AER to seek further information from Multinet to substantiate its forecasts. In some instances, however, the Draft Decision is raising particular concerns for the first time.

The remainder of this chapter is structured as follows:

- Section 2.3 examines the basis of the AER's alternative forecast, and explains why the AER's approach does not comply with the Rules or the National Gas Law.
- Sections 2.4 to section 2.8 examine the AER's assessment of Multinet's operating expenditure forecasts, following the same structure as the Draft Decision:
    - Comparison of historical and forecast operating expenditure
    - Assessment of Multinet's bottom-up forecasts
    - Assessment of cost drivers
    - Interaction of operating expenditure forecasts with the incentive mechanism
    - Benchmarking of Multinet's actual and forecast operating expenditure.
- Section 2.9 addresses Unaccounted For Gas (UAFG).
- Section 2.10 sets out Multinet's revised proposal.
- Section 2.11 reconciles Multinet's forecast operating expenditure with Multinet's current operating expenditure. This reconciliation explains how a properly constructed 'base year' approach would show that Multinet's revised operating expenditure forecasts are efficient and comply with the requirements of the Rules.
- Section 2.12 provides a reconciliation of Multinet's revised operating expenditure forecast and its original forecast.

2.3 The AER's alternative operating expenditure forecast

2.3.1 AER's views

In rejecting Multinet's proposed operating expenditure forecast, the AER argued that the most appropriate forecasting method is the 'year 4' or 'base year' approach. The AER therefore also rejected Multinet's view that the substantial change in the company's circumstances necessitated a 'bottom up' forecast, rather than a forecast that implicitly assumed that the status quo would continue. The AER commented as follows[8]:

> "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. Moreover, promoting effective incentives satisfies both the National Gas Objective and s. 24(3) of the National Gas Law."

[8] Ibid, page 153.

The following paragraphs from the Draft Decision summarise the AER's forecasting approach[9]:

> "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. [….] 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. [….]
>
> 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. 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 adopted a base year forecasting approach, but projected forward from Multinet's actual operating expenditure in 2011. According to the AER, the rationale for this approach is twofold:

- The efficiency carryover mechanism requires the operating expenditure forecast to be derived using a base year approach; and
- Multinet should be able to obtain efficiency gains to offset JAM's current loss.

2.3.2 Multinet's response

Rule 74(2) states:

> "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."

In relation to operating expenditure, rule 74(2) therefore requires that the forecast is *the best possible* in the circumstances. The best possible forecast must consider all available information about the future. The best forecast cannot be based solely on historic data, especially in circumstances where the future is known to be substantially different to the past.

[9] Ibid, page 141.

For Multinet, the future will be substantially different to the past. The OSA is due to expire within the first 6 months of the forthcoming access arrangement period and will not be renewed. The current outsourcing arrangements will be replaced with a new business model, in which competitively tendered contracts with new service providers will be incentive-based, rather than fixed-price. Multinet's role in the new business model will be substantially enhanced to manage more complex outsourcing arrangements and to improve strategic planning and governance.

Multinet's bottom up forecasting approach reflects the outcome of the competitive tender process. There is no better source of cost information than competitively tendered contracts. The scope of work reflects Multinet's asset management plans, which are specifically focused on addressing future challenges that may be very different from the past. The forecasts also reflect the new mix of in-house and outsourced services, and the planned staffing and salary levels as determined by an independent remuneration expert.

Grant Thornton also concluded (at paragraph 2.2 of its report) that a bottom up forecast is appropriate in Multinet's circumstances:

> "In our opinion, Multinet's bottom up approach represents the best forecast or estimate possible in the circumstances supported by the change in business model, which is expected to bring benefits from competitive tenders for outsourced functions, benefits of shared costs with United Energy, all the future circumstances of Multinet and is forward looking."

In contrast to Multinet's bottom up forecast, a base year forecasting approach implicitly assumes that historic expenditure is the best guide to the future. A base year forecast cannot be the best forecast because it ignores information about the future, and instead applies simple proxies or assumptions that will be subject to wide error bands. For example, a forecast based on actual operating expenditure cannot forecast competitively tendered contractual terms and conditions with any reasonable degree of accuracy. The purpose of the competitive tender process – and one of the reasons regulators effectively require them – is that they provide a price discovery process that cannot be established otherwise.

Multinet's Board would not accept a forecasting approach that did not consider the outcome from the competitive tender exercise or Multinet's future in-house resource requirements. As a practical matter, therefore, Multinet's Board could not provide the required Directors' declaration if a base year forecasting approach had been adopted.

The AER's Draft Decision argues that the operating expenditure forecasts must reflect actual operating expenditure in order to give effect to the efficiency carryover mechanism. However, as already noted, Rule 74(2)(b) requires that the forecast must be the best forecast or estimate possible in the circumstances. If the Rules required operating expenditure forecasts to be based on historic costs, then the Rules would have been drafted accordingly – but that is not the case. Similarly, Rule 91 does not make mention of historic costs, but instead requires that operating expenditure should reflect the lowest sustainable cost of providing regulated services. Rule 91(1) states:

> "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."

In fact, the Rules make no mention of a base year forecasting methodology, and therefore the AER is mistaken in arguing that the Rules mandate this forecasting approach. Multinet addresses the issue of the efficiency carryover mechanism in further detail in chapter 7 of this response. For the purpose of the current discussion, however, it is sufficient to note that the operation of the

efficiency carryover mechanism does not depend on a base year forecasting approach for operating expenditure. In any event, Multinet's proposal argued that the AER should exercise its discretion to not apply the efficiency carryover mechanism, which is the exactly the approach adopted by the AER in relation to United Energy's 2011-2015 electricity distribution price review.

Multinet has sought the expert opinion of Professor Philip Williams of Frontier Economics in relation to the AER's application of its base year approach. Contrary to the AER's Draft Decision, Professor Williams concluded that the Rules (NGR) do not mandate any particular forecasting methodology, but the choice of method should depend on the circumstances[10]:

> "In our opinion, the NGR does not dictate any particular method for forecasting an efficient level of operating expenditure. If the conditions confronting the business are unlikely to change significantly in the future compared with the past, costs incurred in the past may be a good guide to those that are likely to be incurred in the future. If conditions are likely to change significantly, it may be difficult to predict future expenditure on the basis of past expenditure."

Professor Williams concluded that the AER should not simply reject forecasts because they have been constructed from the bottom up. He explained that it should be possible to reconcile a base year forecasting method with a bottom up forecast. However, the AER's base year forecast for Multinet contained logical inconsistencies in the AER's reasoning as explained below[11]:

> "[…] the AER also acknowledged that even if Multinet were to continue with its current business model beyond the period of the current contract (which expires on 30 June 2013), it would not be able to contract with JAM at the same price that Multinet has enjoyed for the past several years.
>
> In our view, the AER's acceptance of this basic fact has two implications:
>
> - First, it means that the new business model is not the only – or even a primary – reason why Multinet's forecast operating expenditures exceed its historical expenditures. Multinet's costs would rise even (and perhaps more so) if it continued with the same business model it employed over the 2008-12 period.
>
> - Second, it means that Multinet's historical expenditures cannot be taken as a guide to what would be an efficient and sustainable level of operating expenditures for Multinet in the 2013-17 access arrangement period, ignoring other cost drivers and scope changes.
>
> This means that the AER's revised starting point for setting Multinet's efficient operating expenditures should be the price that Multinet would need to pay JAM if negotiating an otherwise identical contract today for future operating services. The price that Multinet would need to pay JAM under a contract negotiated today would be based on JAM's expected actual cost of service, plus a reasonable profit margin. As noted by the AER:
>
> > "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

[10] Frontier Economics, Expert Opinion from Professor Phillip Williams on the AER's approach to forecasting Multinet's operating expenditure, November, 2012, paragraph 20.

[11] ibid, paragraphs 30-36.

> increase the fee it charged, and this would lead to Multinet's costs being higher in the 2013-17 access arrangement period."[12]

These historical expenditures reflect a historical contract price that is neither repeatable nor reflective of any party's actual costs of service. As such – and contrary to the […] the AER's Draft Decision [...] – these historical prices cannot be used to indicate what would be an efficient and sustainable level of operating expenditures for Multinet going forward.

Indeed, the AER has previously accepted the need to adopt cost forecasts that reflect adjustments to historical expenditures for losses made under past service contracts. For example, in its Final Decision for the Victorian electricity distribution pricing review, the AER stated (in relation to United Energy's operating expenditure forecast):

> "Frontier Economics' view that the AER should place greater weight on benchmarking rather than historical costs in assessing United Energy's opex forecast is based on a view that the OSA [operating services agreement] arrangements are unsustainable. Based on the arguments put forward to support this contention, the AER has not found this to be the case, with the exception of the loss currently being earned by JAM in servicing the contract. As noted above and confirmed by Frontier Economics, the AER's approach has adequately addressed this issue by adopting JAM's current actual costs rather than the current contract charges."[13]

Further, the AER has concurrently adopted an approach elsewhere in which it makes operating expenditure forecasts based on the third party contractor's actual costs plus a margin. In the Envestra Draft Decision, the AER set an operating expenditure forecast that reflected Envestra's contractor's (APA's) reasonable likely actual costs of service plus a network management fee of 3 per cent of Envestra's network revenue[14]. The NERA report prepared for Envestra found that the implied EBIT margin paid by Envestra was about 6.4 per cent over 2002-2011[15]. The AER's Draft Decision on Envestra found that while NERA's report had limitations, it suggested that the margins paid by Envestra were "not inconsistent with industry practice."[16] Further, the AER undertook benchmarking of Envestra's performance and found that its performance "while it has not improved substantially since the mid 2000s, appears reasonable when compared to other gas distribution service providers."[17] On these grounds, the AER accepted Envestra's proposed network management fee.

We note that the AER's benchmarking analysis also showed that Multinet's performance was comparable to Envestra's performance.[18]"

Professor Williams is unequivocal that the AER's approach in its Draft Decision is inappropriate and contrary to the National Gas Objective. The AER's base year approach implicitly assumes that the efficiencies that will be achieved from the new business model will exactly offset the sum of:

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12 AER Draft Decision, Part 2, page 213.

13 AER, Victorian electricity distribution network service providers, Distribution determination 2011-2015, Final decision - appendices, October 2010, page159.

14 AER, Access Arrangement draft decision, Envestra Ltd, 2013-17, Part 2 – Attachments, September 2012, section 6.5.6, page 287.

15 NERA Economic Consulting, Benchmark Study of Contractor Profit Margins (2002-2011), Envestra, March 2012, Table 4.2, page 20.

16 AER, Access Arrangement draft decision, Envestra Ltd, 2013-17, Part 3 – Appendices, September 2012, section E5.1, page166.

17 Ibid, page166..

18 Ibid, pages164 and 165.

1. The loss that JAM currently incurs under the existing OSA;

2. A reasonable profit margin as reflected in the winning bids in the competitive tender;

3. The additional costs to bridge performance gaps in the existing OSA, particularly in relation to strategic planning, risk management and governance; and

4. The costs of implementing and operating the new business model.

Professor Williams explains that while it may be reasonable to assume that the efficiency gains from the new business model exceed the costs of implementing and operating the new business model, there is no reason to suppose that the efficiencies will cover the cost items 1 to 3 listed above. Professor Williams explains that the AER's approach is logically flawed because there is no relationship, for example, between the losses currently incurred by JAM and the likely efficiencies that would be achieved from the new business model. In contrast, however, the AER implicitly assumes that the efficiency gains will exactly equal the sum of the other three cost elements, but such an outcome would be a fluke or coincidence.

Multinet also concurs with Professor Williams that the AER's approach for Multinet is inconsistent with its approach for United Energy and also its concurrent Draft Decision for Envestra. For Envestra, the AER's operating expenditure allowance includes a profit margin for its outsourced service provider, APA, whereas Multinet's operating expenditure allowance embeds a significant loss by assuming that JAM continues to provide OSA services at the current OSA fee. There is a striking inconsistency in the AER's approach that is unexplained and unreasonable.

The inconsistency in the AER's approach is even more striking if the differences in outsourced contracts is taken into account.

- Envestra's outsourced contract allows APA to recover its costs and earn a margin equal to 3 per cent of Envestra's revenue;

- Multinet's contract with JAM is a fixed price arrangement with no guarantee of cost recovery and no margin.

Compared to APA's cost recovery contract, JAM has been subject to much stronger incentives to minimise its costs. In these circumstances, a question arises as to why the AER would allow a profit margin for APA's outturn costs, but a negative margin in relation to JAM's outturn costs. Of course it is theoretically possible that, despite the different incentive properties, APA is (somehow) more efficient than JAM, and this explains why APA should earn a margin and JAM should face a loss. However, the AER is required by National Gas Law to explain the reasons for its decisions, and in this instance no credible explanation is provided. In fact, as noted by Professor Williams, Multinet's recent performance is described by the AER as being comparable to Envestra Victoria[19].

In summary, the above discussion illustrates that the AER's proposed operating expenditure allowance for Multinet employs a forecasting methodology – the base year approach - that is inconsistent with the Rules. Furthermore, the application of the base year approach is illogical because it assumes, without any reason or foundation, that the new business model will produce

[19] AER. Draft Decision, Part 2, page 148.

exactly the amount of cost savings necessary to ensure that the current OSA fee is an appropriate component of Multinet's operating expenditure forecast for the forthcoming access arrangement period. Furthermore, the AER's approach to setting Multinet's operating expenditure allowance is inconsistent with that adopted for Envestra.

In sections 2.4 to 2.8 below, we examine the AER's criticisms of Multinet's original operating expenditure forecasts. These sections explain how Multinet has addressed these criticisms in this revised proposal. Section 2.9 addresses Unaccounted For Gas (UAFG). Multinet's amended operating expenditure forecasts are set out in section 2.10.

As already noted, section 2.11 reconciles the forecast operating expenditure with Multinet's current operating expenditure. This reconciliation explains how a properly constructed 'base year' approach would show that Multinet's revised operating expenditure forecasts are efficient and comply with the requirements of the Rules. Section 2.12 then provides a reconciliation of Multinet's revised operating expenditure forecast and its original forecast.

2.4 Comparison of historical and forecast operating expenditure

2.4.1 AER's views

The AER commenced its assessment of Multinet's forecast operating expenditure by examining how Multinet's total forecast is expected to change in the forthcoming access arrangement period compared to the current period. The AER explained that this exercise was undertaken to understand the causes of the increase in Multinet's operating expenditure forecast compared to its historical expenditure.

The AER stated that Multinet's business-as-usual operating expenditure is forecast to increase from $52.9 million in 2010, the year prior to when Multinet's restructure commenced, to a forecast annual average of $71.6m (expressed in 2012 prices) in the forthcoming access arrangement period, a 36.1 per cent increase.

The Draft Decision notes that a portion of the forecast increases in operating expenditure are attributable to scope changes, labour cost escalation and growth escalation. The AER comments that the remainder of the gap between historic and forecast costs is an estimate (made by the AER) of the net forecast increase in operating expenditure attributable to Multinet's new business structure. In relation to 2010 costs, based on Multinet's forecast, the AER estimated that Multinet's new business model increases operating expenditure by $33.8m (expressed in 2012 prices) over the forthcoming access arrangement period.

2.4.2 Multinet response

The AER's analysis correctly identifies the cost increases that are attributable to scope changes, labour cost escalation and growth. However, the AER is mistaken in attributing the remaining cost increases to the new business model. The AER's simplistic analysis of actual and forecast operating expenditure provides a distorted comparison.

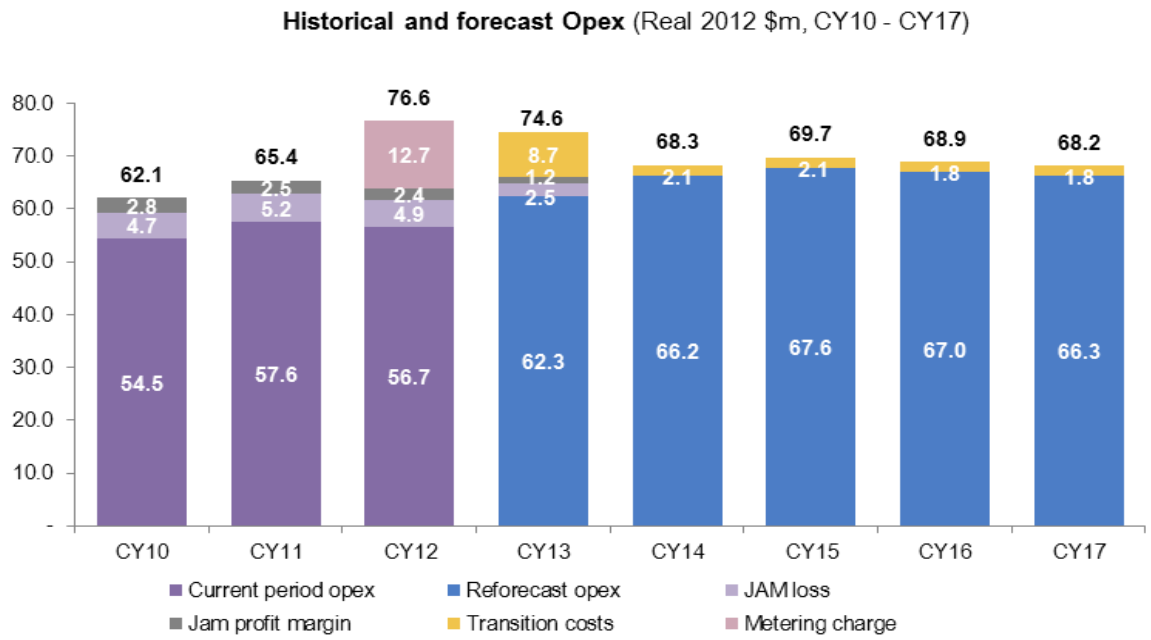
The problems with the AER's cost comparison arise because, as already noted in section 2.3.2, Multinet's primary service provider Jemena Asset Management (JAM) makes a loss under the existing Operating Services Agreement (OSA). Multinet's original proposal explained that the OSA expires on 30 June 2013 and the existing terms and conditions will not continue beyond that date. It is obvious that loss-making contracts with external service providers are not sustainable.

Furthermore, contractors that are trapped in a loss-making contract for a period have a greatly enhanced incentive to minimise short term costs and pay little regard to the consequential longer term considerations and risks faced by the client. It follows that whilst customers have benefited from the existing contractual arrangements, this cannot continue in the next regulatory period.

The AER is therefore drawing comparisons across two fundamentally different sets of operating conditions. In the current period, operating expenditure has been artificially low because outsourced services have been provided to Multinet at a price which is below cost. In the next period, the costs to Multinet of procuring outsourced services reflect market prices determined through a competitive tender exercise. In these circumstances, it is not reasonable to describe operating expenditure as increasing in the forthcoming access arrangement period.

As already noted, the process of responding to the Draft Decision and the engagement of new independent experts to conduct a further review of Multinet's operating expenditure forecasts has led to revisions in Multinet's proposed operating expenditure. Grant Thornton has provided a like-for-like comparison between Multinet's actual operating expenditure for the current period and the forecast expenditure for the next, which properly recognises the issue of JAM's losses. It should be noted that Multinet's operating expenditure for calendar year 12 (CY12) is higher due to a one off expense of $12.7 million related to metering.

Figure 2-1: Historical and forecast operating expenditure (Real 2012 $M)



Grant Thornton's cost comparison is materially different to the AER's assessment. In contrast to the AER's analysis, Grant Thornton has recognised that Multinet's costs in the current period are depressed by JAM's losses under the OSA. In the forthcoming access arrangement period, transitional costs will arise as Multinet implements its new business model. These costs are an unavoidable consequence of business change and are typically incurred by businesses as systems and processes change. From a presentational perspective, however, it is important to show these costs separately to enable like-for-like comparisons to be made with historic costs. Importantly, the underlying costs for the new business model, excluding transitional costs, provides a better longer term indication of its likely performance compared to the status quo.

Unless like-for-like comparisons are made, it is easy to mischaracterise the apparent increase in Multinet's operating expenditure in the next regulatory period. In fact, the AER has made exactly this kind of error in the following comment[20]:

> "The remainder of the gap [after allowing for scope changes, labour escalation and growth] 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 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."

The AER's comments are incorrect because the expiry of the OSA will occur on 30 June 2013 whether or not Multinet adopts a new business model. Even if Multinet's business model were to remain unchanged, the OSA would be renegotiated. As a commercial business, JAM would only renew the OSA on terms that would enable it to earn a reasonable margin. The AER has been provided with evidence that JAM's price quotation for renewal of the OSA results in the status quo being a less efficient option than the new business model[21]. If the AER had properly considered the costs of continuing with the existing business model, it would have concluded that the new business model delivers operating expenditure savings, not increases. Section 2.11 addresses this issue in further detail.

2.5 Assessment of Multinet's bottom-up forecasts

2.5.1 AER's views

The Draft Decision stated that the AER assessed Multinet's outsourced and in-house costs against relevant requirements of the Rules. Following this assessment, the AER concluded that Multinet's proposed forecast is not a total forecast of operating expenditure that has been arrived at on a reasonable basis or is the best forecast possible in the circumstances.

The AER concluded[22]:

> "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."

In relation to Multinet's forecasts of the cost of outsourced services, the AER accepted the prices from the competitive tender process, but did not accept that Multinet's volume forecasts have been arrived at on a reasonable basis. The AER explained its reasoning in the following terms[23]:

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[20] AER, Draft Decision, Part 2, page 136.

[21] Multinet, Access Arrangement Information, March 2012, section 3.3.4, supported by confidential information provided to the AER.

[22] AER, Draft Decision Part 2, page 137.

> "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. GHD assessed the data quality of Multinet's work volumes known as activity codes. Of the 130 activity codes provided to GHD, it only 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.
>
> 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."

In relation to Multinet's in-house forecasts, the AER criticised Multinet for not providing sufficient supporting information[24]:

> "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. 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 circumstances. 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 also criticised AT Kearney's assessment of Multinet's internal labour costs. The AER argued that AT Kearney had not explained the assumptions that underpin its assessment, and AT Kearney had also failed to benchmark total labour costs[25]:

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[23] Ibid, pages 137 and 138.

[24] Ibid, page 138.

[25] Ibid, page 139.

> "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."

In relation to in-house salaries, the AER noted that Multinet commissioned a Market Remuneration Report from Geoff Nunn and Associates. However, the AER found the assessment to be incomplete and, in addition, the AER could not reconcile the report with Multinet's internal labour cost forecasts[26]:

> "However the advice from Geoff Nunn and Associates provided to the AER only assessed some salaries. 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."

2.5.2 Multinet response

Multinet does not accept the view that its operating expenditure forecasts lacked substantiation. As already noted in section 2.2, Multinet's original proposal included 28 appendices that were specifically focused on the substantiation of the operating expenditure forecasts. The following comment in the AER's Draft Decision gives the false impression that little or no substantiation was provided:

> "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."

The AER's criticism is misplaced for three reasons.

- Multinet provided historic and forecast operating expenditure for each expenditure category requested by the AER's Regulatory Information Notice. However, Multinet's capacity to provide disaggregated cost data is limited by Multinet's reliance on JAM's systems and processes. JAM's lack of cost transparency is one reason why Multinet is making changes, under its new business model, to obtain better cost and performance data.

- Despite the limited disaggregated historic cost information, Multinet has been able to develop forecasts that are efficient and prudent. For example, where services are procured through a competitive tender process, the efficiency of the successful bid depends on the scoping of tendered services; the competitiveness and probity of the tender process, and the efficacy of the selection process. It is not necessarily instructive to compare the winning bid to historic costs on a line-by-line basis.

[26] Ibid, page 139.

- More generally, Multinet's explanation of its operating expenditure forecast varied according to the nature of the cost drivers and the delivery method. Multinet does not regard line-by-line cost comparisons with historic costs as the optimal method for demonstrating compliance with the Rules. Multinet explained its forecasting approach in the following terms[27]:

> "In order to provide a comprehensive explanation of its operating expenditure forecasts, Multinet considers that it should explain the rationale for its expenditure plans; highlight changes in scope or volumes; explain the service delivery method; and explain how the forecasts have been derived."
>
> "For each operating expenditure category or activity, Multinet explains the derivation of its forecast expenditure:
>
> - Where forecast operating expenditure has been established through a competitive tender, details of the tender are provided (subject to confidentiality).
> - Where forecast operating expenditure has been established by estimating in-house costs, evidence is provided to support the cost estimates. This evidence may include: historic resource levels; independent benchmarking of labour volumes and labour rates; material volumes and prices; and forecast escalation rates.
> - A detailed breakdown of cost information from outsourced service providers is not made public in this submission, but will be provided to the AER on a confidential basis. Confidentiality is required in order to ensure that competitive pressure, which is a key feature of Multinet's new business model, continues to apply to the providers of outsourced services."

In relation to volumes of outsourced work, Multinet notes the AER's concern that GHD examined only 89 of the 139 activity codes. However, it is important to recognise that GHD provided an independent expert opinion that reconciled the outsourced and in-house work volumes to Multinet's Asset Management Plan. In its review, GHD concluded that[28]:

- Multinet's Asset Management Plan is soundly based and reflects good engineering practice.
- Multinet's combination of outsourced and in-house resourcing is efficient and prudent, and reconciles to the work volumes required by the Asset Management Plan.
- In accordance with rule 72(2), the volume forecasts have been arrived at on a reasonable basis; and represent the best forecast possible in the circumstances.

Multinet recognises that it may have been preferable for GHD to examine all 139 activity codes. Evidently, however, GHD did not regard it as necessary to examine all 139 activity codes in order to reach an unqualified opinion regarding the external volumes. It is not unusual for an expert to reach an unqualified opinion without examining each line item. A tax auditor, for example, would not review every transaction in order to reach an unqualified opinion regarding compliance with the tax law. The AER is therefore setting a standard for demonstrating compliance with the Rules

[27] Multinet's Access Arrangement Information, March 2012, page 65.

[28] Ibid, page 69.

that exceeds normal business practice. Multinet questions whether such a standard is reasonable, given that the National Gas Objective is principally concerned with efficiency.

While Multinet's proposal relied upon the independent expert opinion provided by GHD, we recognise the importance of addressing the AER's concerns regarding external volumes. In this revised proposal, therefore, Multinet engaged AECOM to conduct a fresh review of the work volumes.

AECOM concluded that Multinet's volume forecasts are consistent with the scope of work 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, in accordance with rule 91. AECOM's report is provided as Appendix 2-2.

In relation to in-house costs, contrary to the AER's views, Multinet's original proposal clearly explained that Multinet had benchmarked its in-house labour requirements against other organisations. Section 4.8.2 of Multinet's Access Arrangement Information submitted in March 2012 explained the benchmarking approach and also appended a detailed report from AT Kearney. Multinet explained this benchmarking exercise in the following terms[29]:

> "In relation to the FTE requirements, Multinet conducted a series of scoping exercises and internal workshops which included input from consultants GHD and AT Kearney based on their experience and international benchmarking studies. Benchmarking studies included an analysis of FTE staff levels of gas networks in Australia and Europe. The scoping exercise also considered all other available comparator information including: Multinet's previous organisational structure and resource requirements prior to establishing the OSA; and JAM's current resource requirements."

The AER is mistaken in stating that[30]:

> "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 [comply with the Rules]."

Multinet notes that benchmarking total labour costs would only be meaningful if peer companies exactly matched Multinet's mix of in-house services. Multinet's Access Arrangement Information explained that it had applied a rigorous 'make or buy' assessment framework to determine which services should be provided in-house and which should be outsourced. Given the company-specific nature of Multinet's approach, it is unlikely that any particular company has exactly the same mix of in-house services as Multinet's.

AT Kearney's benchmark provided a means of verifying that the process for determining Multinet's labour requirements was reasonable. The benchmarking of labour requirements for particular functions provided an appropriate level of assurance. It was not necessary to compare the total labour costs because a separate exercise was undertaken to ensure that the remuneration rates were efficient. In particular, Multinet's proposal relied on Geoff Nunn's expert report on remuneration rates to ensure that the in-house labour requirements were appropriately costed[31]:

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[29] Ibid, page 72.

[30] AER, Draft Decision Part 2, page 139.

[31] Multinet's Access Arrangement Information, March 2012, page 73.

> "These remuneration rates reflect market data from 20 companies that participate in a published annual survey, *Market Remuneration in the Power, Water and Utilities Sectors*. Geoff Nunn & Associates evaluated each Customer and Market Services internal position using the National Remuneration Centre Jobscore 4.0 system. The market remuneration rate for each position was determined by mapping each score to the market data obtained from the annual survey and also taking account of market trends. Geoff Nunn & Associates also ensured that each proposed remuneration rate sits appropriately within the banded structure and rates currently adopted by Multinet"

The AER argues that it could not reconcile Multinet's forecasts with the information provided by Geoff Nunn. However, the AER did not seek further information from Multinet regarding this reconciliation. Furthermore, instead of making adjustments to Multinet's forecasts to remove costs that the AER considered not to be fully justified, the AER has developed its own forecasts using a completely different methodology. If the AER had specific concerns regarding Multinet's forecasts, it could have made appropriately targeted adjustments. It is of particular concern that the AER did not make adjustments to Multinet's operating expenditure forecasts, but instead started afresh with its own forecasting method, which Multinet has shown (in section 2.3.2) to be in error and inconsistent with the requirements of rules 74 and 91.

2.6 Assessment of cost drivers

2.6.1 Overview of Draft Decision

The AER explained that scope changes, labour cost escalation and growth are independent of Multinet's business restructure and therefore can be addressed separately. The table below reproduces Table 6.7 of the Draft Decision. It shows the difference between Multinet's original proposal and the AER's Draft Decision.

Table 2-4: Multinet's forecast and AER assessment of cost drivers ($m, real 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	11.3	–
Labour cost escalation	21.3	6.8
Output growth	6.1	2.5

Source: Draft Decision Part 2, Table 6.7.

The AER's Draft Decision, and Multinet's response in relation to each cost driver are set out under separate subheadings below.

2.6.2 Network development expenditure

2.6.2.1 Draft Decision

The Draft Decision noted that Multinet explained that this proposed expenditure would enable Multinet to undertake research and development, including:

- Feasibility studies on the use of existing electricity AMI infrastructure to enable the integrated reading of gas and electric meters.
- 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.
- Development of a detailed customer data warehouse to better target the marketing of gas appliances.

In principle, the AER accepted that network development expenditure may be prudent and efficient. However, the AER argued that Multinet has not presented evidence that the activities it proposes to undertake will provide a long term benefit to Multinet or its customers. The AER concluded that if Network Development expenditure had not been included in the current regulatory period, it is not prudent to incur the expenditure in the forthcoming regulatory period[32]:

> "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."

2.6.2.2 Multinet response

Multinet has completed its network development plan (attached as Appendix 2-5) which responds to the criticisms expressed by the AER in the Draft Decision, and which provides further detailed information to substantiate its proposal.

Multinet does not accept the Draft Decision that expenditure on its proposed Network Development Plan is inconsistent with that which a prudent and efficient service provider would incur. In particular:

- Two of the three proposed expenditure items involve undertaking feasibility studies and cost benefit studies. Multinet considers that by-passing the feasibility study stage and proceeding directly to a detailed cost benefit analysis and/or Board approval (which is the

[32] AER, Draft Decision Part 2, page 139.

process implied by the Draft Decision), would not be consistent with prudent and efficient conduct.

- It is impossible for Multinet to demonstrate definitively that its proposed expenditure is net present value positive and will deliver a long term benefit to its customers, without first undertaking feasibility studies.

- The AER has reasoned that the incentives provided by the ECM in the current period enable it to infer that Multinet's expenditure on this activity in the current period is efficient, and provides a basis for forecasting expenditure requirements for the forthcoming access arrangement period. Apart from providing a strong disincentive for research and innovation, this reasoning is inappropriate, given that:

    - the proposed expenditure represents a move away from the status quo, and is intended to enable future improvements in the services that will be provided; and

    - the feasibility of the network development initiative depends on the roll out of smart meters in electricity, which will only reach completion in 2013..

- The AER could consider introducing an allowance similar to the DMIA that operates in the electricity sector, in order to provide a means by which businesses can undertake research and development activities that are likely to be in the long term interests of customers, whilst also ensuring that businesses do undertake the programs outlined in their regulatory submissions.

- Developing a detailed customer data warehouse and making such data available to retailers and appliance manufacturers will reduce the current information asymmetries, and increase the penetration of gas appliances and connections where this is economic. Such outcomes are consistent with the National Gas Objective as they are consistent with promoting efficient investment in, and use of, gas services.

On this basis, Multinet's revised proposal includes the network development expenditure totalling $10 million over the forthcoming access arrangement period, as outlined in its original submission.

2.6.3 Energy Efficiency Opportunities

2.6.3.1 Draft Decision

Multinet's operating expenditure forecasts included $150,000 per annum to manage the costs of the program, which will be extended to energy distribution businesses. In its Draft Decision, the AER noted that a regulatory impact statement had not been prepared, but an earlier impact statement for generators estimated that the average costs to be $73,000 per annum. The AER also argued that the program would only require more than one member of staff from time to time. The AER concluded that an allowance of $100,000 would be appropriate.

2.6.3.2 Multinet response

Multinet accepts the Draft Decision in relation to this expenditure. Accordingly, Multinet's revised proposal includes an expenditure forecast of $100,000 per annum for this activity.

2.6.4 Carbon tax administration

2.6.4.1 Draft Decision

The Draft Decision accepted 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. The AER stated that Multinet's step change for carbon administration costs should only relate to the ongoing costs of administering the scheme because set-up costs should have been incurred in the period covered by Multinet's approved pass through (1 July 2012 to 31 December 2012). The Draft Decision proposed an allowance of $108,750 per annum (representing the estimated cost of 0.5 FTE staff and reasonable audit costs).

2.6.4.2 Multinet response

Multinet accepts the Draft Decision's allowance for the additional operating costs associated with carbon tax administration. Accordingly, Multinet's revised proposal includes an expenditure forecast of $108,750 per annum for this activity.

2.6.5 NECF related costs

2.6.5.1 Draft Decision

The Draft Decision noted that Multinet's forecast of additional costs was predicated on the NECF commencing prior to 1 July 2013. However, it is now uncertain when and in what form the NECF will commence in Victoria.

Under these circumstances the AER considered that NECF related expenditure can best be assessed as a pass through application once the relevant legislation is passed in Victoria. The Draft Decision stated that the AER considers it appropriate to include a NECF specific pass through in Multinet's access arrangement, and that the NECF-specific pass through will not subject to a materiality threshold.

2.6.5.2 Multinet response

Given the uncertainty associated with the form and timing of commencement of the NECF in Victoria, Multinet accepts the AER's proposal to not provide an allowance for NECF-related costs in the expenditure forecasts, and instead, to provide arrangements for cost pass-through. Multinet welcomes the AER's confirmation that the NECF-specific pass through will not subject to a materiality threshold.

2.6.6 Cyclical GAAR costs

2.6.6.1 Draft Decision

The Draft Decision accepted the adjustment proposed by Multinet to reflect cyclical GAAR costs.

2.6.6.2 Multinet response

Multinet welcomes the Draft Decision's acceptance of the adjustment proposed by it to reflect cyclical GAAR costs in 2011. Multinet wishes to note, however, that because of delays in the timetable for the current review, the company is forecasting a total of $1 million of cyclical GAAR-

related expenditure in 2012 so its proposed adjustment reflects this. Multinet also wishes to note that its total GAAR-related expenditure remains below that of the other Victorian gas distribution businesses. The table below sets out Multinet's proposed adjustments to 2011 base year expenditure to reflect cyclical GAAR costs throughout the forthcoming access arrangement period.

Table 2-5: Adjustment for cyclical GAAR costs

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
Cyclical GAAR costs	-0.5	-0.5	-0.5	0.5	0.3	**-0.7**

2.6.7 Increase in maintenance (metering) costs

2.6.7.1 Draft Decision

In relation to Multinet's forecast, the AER considered that Multinet has not provided a robust forecast consistent with the requirements of rule 74(2) and that Multinet's historical data does not support the claimed increase in meter refurbishments in the forthcoming access arrangement period. The AER considered that the actual costs incurred in 2011 provide a reasonable basis for forecasting operating and maintenance costs, and will provide the best estimate possible in the circumstances.

2.6.7.2 Multinet response

Section 3.3 of the March 2012 AAI explained the competitive tender process that provided the information used by Multinet to compile its forecasts of costs for outsourced services for the forthcoming access arrangement period. As noted in section 2.5.1 above, the AER accepted the prices from the competitive tender process for outsourced services, but did not accept that Multinet's volume forecasts have been arrived at on a reasonable basis.

For the metering maintenance activity, Multinet provided the bidders with the forecast volumes and used the prices from the two winning bidders to derive a forecast of total expenditure.

Metering maintenance is a specialist activity which exhibits significant work volume fluctuations from year to year, based on the life cycle of meters. The high level of variability in annual work volumes is illustrated in the table below which provides details of work volumes for each year of the current access arrangement period.

Table 2-6: Metering program 2008 to 2012

	2008	2009	2010	2011	2012	Total
Meters removed due to failure	71,300	19,688	21,765	16,312	66,067	195,132
Non repairable	1,800	4,369	20,610	8,247	8,353	43,379
Sub – total	**69,500**	**15,319**	**1,155**	**8,065**	**57,714**	**151,753**
Meter removed due to sample testing	1,000	2,000	1,500	1,000	1,000	6,500
Meters removed due to faults	2,000	2,000	2,000	2,000	2,000	10,000
Potentially repairable meters	72,500	19,319	4,655	11,065	60,714	168,253
Actual repaired	**65,250**	**17,387**	**4,190**	**9,959**	**54,643**	**151,428**

This actual work volume data for the current period demonstrates clearly that the meter maintenance program fluctuates significantly year to year. The total cost of the program therefore also fluctuates significantly from year to year.

The forecast metering program is summarised in the table below.

Table 2-7: Metering program for 2013 to 2017

	2013	2014	2015	2016	2017	Total
Meters removed due to failure	18,135	40,066	71,589	24,290	33,034	187,114
Non repairable	18,135	4,709	0	0	0	25,196
Sub – total	**0**	**35,357**	**71,589**	**24,290**	**30,682**	**161,918**
Meter removed due to sample testing	1,300	1,300	1,452	1,604	1,604	7,260
Meters removed due to faults	2,373	2,376	2,380	2,384	2,388	11,901
Potentially repairable meters	3,673	39,033	75,421	28,278	37,026	206,275
Forecast repairs	**3,306**	**35,129**	**67,879**	**25,450**	**31,207**	**162,207**

It is noted that when measured over a 5 year interval, the program for the forthcoming access arrangement period is of a similar size to the program that was completed in the current period. It is noteworthy, however that the actual volume of work completed in 2011 (year 4 of the current period) is significantly below the average annual volume for the whole 5-year period. In other words, the volume of work undertaken in 2011 is not representative of average annual levels, and it therefore does not provide a sound basis for deriving forecasts of future volumes. By the same token, had the 2012 metering program been completed in 2011 the AER's "year 4 forecasting" approach would have significantly over-compensated Multinet for the costs of the metering program over the forthcoming access arrangement period.

In view of the known variability in annual work volumes over a five year period, Multinet consider that its forecast has been arrived at on a reasonable basis and represents the best forecast possible in the circumstances, in accordance with the requirements of Rule 74(2). Multinet considers that the information set out above demonstrates that the AER's forecast fails to meet the requirements of Rule 74(2).

Multinet engaged Asset Integrity Australia (AIA) as an independent expert to opine on the forecast metering maintenance program. The AIA report is attached as Appendix 2-3. AIA's conclusions are as follows:

> "In order to undertake this review, AIA has reviewed the AER Draft Decision and received from Multinet historical data on costs and volumes, in particular 2011 data upon which, as set out by the AER, comparisons of forecast costs and volumes should be based. The data that AIA examined and reports that AIA reviewed are included in Appendices, together with AIA calculations.
>
> After examining the Multinet Gas Asset Management Plan, the Small Meter Strategy July 2012 to June 2018 and the NIEIR Energy Report (Dec 2011), interviewing Multinet engineers, examining historical and forecast costs and volumes, AIA made the following assessments:-
>
> 1. AIA concur with the AER Draft Decision that the forecast volumes for meter removal, repair and replacement are reasonable. This reflects the significant historic and forecast year on year variation in volumes due to the 15 year meter life cycle programme of testing and replacement or life extension of meter families. AIA concur with the AER Draft Decision that this programme is prudent to optimise the life of meters.
>
> 2. The forecast unit costs for meter replacement activities from 2013 to 2017 ($27.05) are reasonable when compared to historic unit costs ($26.42) for 2011. AIA therefore assess that 2013 to 2017 unit costs align with the 2011 historic unit costs and can be applied to 2013 to 2017 volumes to determine forecast costs.
>
> 3. AIA does not concur with the AER Draft Decision that 2011 costs should form the basis of 2013 to 2017 costs as 2011 was a year with particularly low volumes. AIA therefore proposes that as the AER Draft Decision agrees with the annual variation in volumes, then the AER should apply forecast volumes that have been assessed to be reasonable, together with reasonable unit costs that align with historical levels to calculate forecast expenditure. This is the basis of the Multinet resubmission with which AIA has assessed and agrees with the forecast volumes and unit costs applied to determine meter replacement costs.
>
> 4. The forecast unit costs for meter refurbishment (repair) activities from 2013 to 2017 ($60.28) are reasonable when compared to historic unit costs in 2008 to 2010 ($59.14). In examining the historic costs for this activity the actual costs and the unit costs appeared to AIA to be anomalous as unit costs were not aligned with 2008 to 2010 unit costs and were at a level less than the contract repair rate.

5. AIA therefore assessed that it was not prudent or reasonable to use the 2011 costs, so historic comparisons were made with 2008 to 2010 costs and volumes. Again this supports AIA's view that 2011 costs should not be used as a basis for determining costs in future years due to the significant annual variation in meter work volumes, essentially due to the 15 year cycle of testing and repair of meter families.

6. AIA proposes that the AER should apply reasonable unit costs aligned with historic levels together with forecast volumes that are deemed to be reasonable (as agreed by the AER Draft Decision) to determine forecast meter refurbishment costs.

   This is the basis of the Multinet resubmission with which AIA agrees with the forecast volumes and unit costs applied to determine the meter refurbishment costs.

7. Overall, AIA considers that the principal of applying meter activity forecast volumes and forecast unit costs to determine the forecast OPEX of metering activity is appropriate and reasonable for metering activities where annual volumes vary significantly depending on the meter families cycle of testing and replacement. AIA therefore considers that the Multinet resubmission based on these principals should be the basis of the AER Final Decision on metering OPEX, rather than using the costs of 2011 as the basis of future expenditure.

   AIA has also reviewed the costs for other activities in metering Opex and AIA confirms that the annual historic expenditure on the metering activities that have significant annual expenditures (TNA39 Meter change, TNA Replace lead connections, TNA44 Slabs and enclosures and TNA45 slab enclosure safety meter regulator sets) is overall higher than the annual forecasts for 2013 to 2017 (an average annual total of $353,022 compared with forecast $323,022). This, together with evidence of the beneficial results of moving to two service providers in a competitive tendering process (see 8 below) provides confidence that the overall forecast metering costs are reasonable.

8. The strategic decision by Multinet to move from one main service provider (Jemena) to two providers (Jemena and Comdain) has resulted in Comdain providing significantly lower unit costs than Jemena for metering activities (see Appendices 1 and 3).

   This indicates that the move to two service providers has been a prudent one providing an element of competitiveness to the recently tendered contracts resulting in a reduction in the average unit costs for 2013 to 2017 than was likely to be the case if Multinet retained Jemena as the single service provider. These new contract costs are sustainable over the term of the 2013 to 2017 review period.

   This also provides support of the assessment by AIA that forecast unit costs for meter replacement and meter refurbishment are reasonable, based on comparisons with historic costs and volumes. As the unit costs for other metering activities have been established by the same competitive tender process and the 2013 to 2017 forecast metering costs are based on these competitive unit costs, then AIA assesses the costs for the 2013 to 2017 metering forecasts are reasonable.

   Accordingly AIA has satisfied itself that forecasts of volumes and costs in the Multinet Gas resubmission complies with the National Gas Rules 74 and 91 as the volume forecasts have been arrived at on a reasonable basis that is underpinned by a 15 year cycle testing and repair policy, and the unit costs were contracted on a competitive process with two service providers that is deemed prudent and sustainable with high value unit costs demonstrably aligned to historical costs."

On this basis, Multinet proposes a forecast of metering costs for the forthcoming access arrangement period based on tendered prices and the volume forecasts set out in Table 2-7 above. Full details of the expenditure forecast are set out in Appendix 2-6.

2.6.8 Real labour cost escalation

2.6.8.1 Draft Decision

The Draft Decision noted that Multinet's proposed real labour cost escalation is a forecast of the real productivity-adjusted average weekly ordinary time earnings averaged from 2012 to 2017. The Draft Decision did not to approve Multinet's proposed labour cost escalators because the AER considered that applying Multinet's proposed escalators would not result in operating and capital expenditure forecasts that accord with rules 74(2)(a) and (b). The AER stated that an alternative approach involving escalation of labour costs by the unadjusted Labour Price Index (LPI) would result in the best possible forecasts of operating and capital expenditure in the circumstances. The AER engaged Deloitte Access Economics to develop forecasts of labour cost changes.

2.6.8.2 Multinet response

In its original proposal, Multinet proposed a real cost escalation rate of 2.65 per cent per annum. This was based on advice received from BIS Shrapnel. The Draft Decision rejected Multinet's forecast and instead adopted a forecast real labour cost escalation rate of 0.7 per cent per annum.

Following the publication of the Draft Decision, Multinet engaged BIS Shrapnel to provide updated forecasts. Along with the other Victorian businesses, Multinet also engaged Professor Jeff Borland (of Melbourne University's Faculty of Business and Economics). Professor Borland was asked to provide an expert opinion as to an appropriate methodology for forecasting changes in the Wage Price Index (WPI) for the purpose of real labour cost escalation over the forthcoming access arrangement period, which is arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.

BIS Shrapnel has provided a revised forecast real cost escalation rate of 1.8 per cent per annum (on average).

Professor Borland has reviewed the revised BIS Shrapnel forecast and the AER's forecast (provided by Deloitte Access Economics (DAE), and concludes as follows:

> "In my opinion, on the basis of this historical evidence, there are two main findings:
>
> 1. There is no reason to regard forecasts of LPI by DAE to be preferable to those of BIS. In Table 2 the average absolute prediction errors for both AE/DAE and BIS are very similar; and Table 3 shows that in the majority of cases BIS forecasts have been associated with a smaller than average absolute prediction error than those of AE/DAE.
>
> 2. In almost all cases where I have been able to examine forecasts made over at least a 2 year horizon, using the average of the AE/DAE and BIS forecasts is associated with a lower average absolute prediction error than using either the AE/DAE or BIS forecasts. In Table 2 the composite AE/DAE+BIS average forecast has the lowest average absolute prediction error in each case in panels A to C. In Table 3 the composite AE/DAE+BIS average forecast has the lowest average absolute prediction error for forecasting LPI changes in the utilities sector (by some margin).
>
> My findings appear generally consistent with those of the AER which has concluded (2012, p.106) 'For the forecast series commencing 2006 to 2011 included in the analysis, the average of DAEs and BIS Shrapnel's forecasts had the lowest mean absolute error on three occasions, DAE's forecasts on two and BIS Shrapnel's once'.

> I do not believe that the recent changes made by the ABS to switch to publishing WPI in place of LPI will affect the conclusions I have drawn from analysing the performance of LPI forecasts."

In light of the conclusions made by Professor Borland, Multinet's revised proposal adopts an average of the forecasts made by Deloitte Access Economics and BIS Shrapnel as the best forecast of changes to WPI for the purposes of real labour cost escalation. Accordingly, Multinet has applied a forecast annual real labour cost escalation rate of 1.4 per cent per annum.

2.6.9 Output growth

2.6.9.1 Draft Decision

The Draft Decision stated that the AER considers network growth should deliver economies of scale. The AER was not satisfied that Multinet's scale factor for customer growth (a factor of 0.7) provides a reasonable basis to forecast operating expenditure, nor was the AER satisfied that Multinet's scale factor would provide the best possible forecast of operating expenditure in the circumstances. The AER considered that customer elasticity coefficients estimated by Economic Insights (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 adopted a 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 operating expenditure.

2.6.9.2 Multinet response

It is important to recognise that Multinet's operating expenditure forecast was derived using a detailed bottom-up approach which did not require the use of an output growth scaling factor. Accordingly, Multinet's estimate of a 70 per cent scaling factor was - as the Draft Decision noted correctly - intended to be a broad but reasonable estimate, rather than a precise calculation. In the circumstances, and for the purpose of this revised proposal, Multinet is adopting the output growth scale factor of 38 per cent as set out in the Draft Decision.

2.6.10 Levels of service under Multinet's current business model

2.6.10.1 Draft Decision

The Draft Decision stated:

> "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.
>
> 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. However, despite repeated requests by the AER for evidence to support this claim, Multinet provided no evidence in support of this statement.
>
> 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.

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."

2.6.10.2 Multinet response

Multinet accepts that it has not been able to provide substantiation of JAM's cost overshooting, until now. Multinet's difficulty in providing this substantiation does not, as the AER assumes, suggest that cost overshooting has not occurred. In fact, it reflects the unsatisfactory governance arrangements and information flow under the OSA, which are matters that the new business model will address. Having said that, the incentive properties of the OSA and its expiry in only a few months time should have been sufficient evidence for the AER to conclude that cost overshooting is highly likely.

In this revised proposal, Multinet has provided testimony from Mark Beech, attached at Appendix 2-13, who was previously employed by JAM in the role of Multinet Asset Manager. In his statement, the JAM's asset management group had been progressively reduced in size. JAM was able to do this because the asset management function tends to be longer term and under-resourcing in the activity does not become immediately apparent. Mark Beech also explained that the OSA KPIs are very high level and Multinet was unable to monitor the impact of under-resourcing strategic areas.

Mark Beech identified several functions that were not being performed by JAM. These functions included updating Engineering Standards, maintenance studies, network planning reports and reductions in other areas such as network modelling and technical compliance. He noted that the impact of under-resourcing of technical compliance has recently become evident. In particular, the ESV rejected Multinet's safety case and required an independent validation, which identified numerous issues of non-compliance. JAM's continued under-resourcing has made it difficult to address these issues within a reasonable timeframe. Mark Beech concludes by stating that JAM's staffing levels in recent years were insufficient to sustain Multinet's long-term network performance.

On the basis of Mark Beech's testimony, Multinet estimates that the costs of the additional in-house resources required to undertake the functions not undertaken by JAM under the OSA to be $0.5 million per annum.

On the basis of that testimony, Multinet estimates that the costs of the additional in-house resources required to undertake the functions not undertaken by JAM under the OSA to be $0.5 million per annum.

2.6.11 ESV Levies

Since Multinet lodged its original proposal in March 2012, Energy Safe Victoria (ESV) has indicated that it is planning to restructure the gas industry levies through which it recovers its costs. On 30 July 2012, the Chief Financial Officer of ESV wrote to Multinet, stating the following:

"We are proposing to remodel the gas industry levies along similar lines to that of the electricity industry. This means that the current charging will change from trying to isolate each sector

within the gas industry to targeting the 'owner' of the assets. This will remove issues in charging, payment avoidance and ensure that all users of gas pay their appropriate share."

"ESV has proposed this change on the understanding that distribution companies could pass on retailer levies through DUOS charges. ESV has discussed this proposal with the AER and provided them with briefing material."

"It is estimated that the increase for each distribution company will be $2.0 million per annum.

The proposed levy changes for your company, on approval by the Minister, become effective for the financial year 2013-14 onward."

The additional costs that will be levied by ESV represent a step change in Multinet's expenditure, compared to the costs incurred in the current period. The forecasts presented in this revised proposal therefore include an allowance of $2 million per annum (commencing from July 2013) for ESV levies over the forthcoming access arrangement period.

2.6.12 Multinet's revised forecast of cost driver impacts

On the basis of the responses set out above, Multinet's revised forecast in relation to the cost drivers applying over the forthcoming access arrangement period is set out in the table below.

Table 2-8: Multinet's revised forecast of the impact of cost drivers over the forthcoming access arrangement period ($ m, real 2012)

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
Network development	2.0	2.0	2.0	2.0	2.0	10.0
Energy Efficiency Opportunities	0.1	0.1	0.1	0.1	0.1	0.5
Carbon tax administration	0.1	0.1	0.1	0.1	0.1	0.5
NECF	Subject to cost pass through					-
Cyclical GAAR costs	-0.5	-0.5	-0.5	0.5	0.3	-0.7
Increase in maintenance costs	2.7	2.7	2.7	2.7	2.7	13.5
ESV levies	1.0	2.0	2.0	2.0	2.0	9.0
Cost over-shooting	0.5	0.5	0.5	0.5	0.5	2.5
Subtotal of above (scope changes)	**5.9**	**6.9**	**6.9**	**7.9**	**7.7**	**35.3**
Labour cost escalation	0.7	1.4	2.1	2.8	3.6	10.6
Output growth	0.2	0.4	0.6	0.8	1.0	3.0
Total	**6.8**	**8.7**	**9.6**	**11.5**	**12.3**	**48.9**

2.7 Interaction of operating forecast with incentive mechanisms

2.7.1 AER's views

The AER's Draft Decision contain an extensive discussion of the relationship between the efficiency carryover mechanism, which provides incentives to achieve efficiency improvements,

and the appropriate forecasting method for operating expenditure. In broad terms, the AER reached the following conclusions:

- **Effect of the transitional provisions**. The transitional provisions in the Rules require the AER to preserve the incentive properties of the ESC's regulatory framework. Multinet's forecasting approach does not preserve these incentive properties, and therefore does not comply with the Rules.

- **Transitional provisions require a negative carryover**. The transitional provisions also require that Multinet must incur a penalty in relation to the operation of the efficiency carryover mechanism in the current period. The AER's forecasting method is the only approach that preserves this penalty.

- **No exercise of regulatory discretion**. Multinet's original proposal requested that the AER exercise its discretion not to impose a negative carryover amount. The AER rejected Multinet's view that the original operating expenditure benchmarks were unattainable and that Multinet's circumstances were aligned with United Energy's circumstances in the 2010 Electricity Distribution Price Determination, where no penalty was applied by the AER.

The first two issues are addressed below, while the third issue is examined in Chapter 7 of this submission.

2.7.2 Multinet response

Multinet does not accept the AER's assessment of the interaction between the efficiency carryover mechanism and the methodology that must be adopted to produce operating expenditure forecasts. As already noted, the Rules and the National Gas Law require the operating expenditure forecasts to be set to allow the network service provider to recover at least its efficient costs. It is wrong for the AER to regard the transitional provisions as overriding this important principle of regulatory design.

As explained below, a proper reading of the Rules and the efficiency carryover mechanism shows that the AER has also misinterpreted these provisions. Multinet's reasoning demonstrates that the AER must adopt a forecast of operating expenditure that satisfies the Rules, and it cannot use the transitional provisions as a reason to set a forecast below the minimum sustainable costs.

2.7.2.1 Effect of the transitional provision – Proper application

In relation to the effect of the transitional provisions, the AER argued that clause 5(1)(a) of Schedule 1 requires that the AER must take into account the operation of an incentive mechanism in determining whether to approve an access arrangement. The AER commented as follows[33]:

> "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.

[33] AER, Draft Decision, pages 143 and 144.

> 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 regulatory periods. The regulated business may have an incentive to defer efficiency gains or shift expenditure into the base year."

The AER misconstrues clause 5(1)(a) of Schedule 1 of the NGR. That clause requires the AER to "take into account the operation of an incentive mechanism approved for the transitional access arrangement under clause 8.44 of the Gas Code".

The incentive mechanism approved under clause 8.44 of the Gas Code is contained in clauses 6.4 and 7.2(6) of Part B of Multinet's access arrangement. Those clauses do not contain the key features on which the AER's reasoning relies. Those clauses contain no reference, express or implied, to the incentive mechanism operating so that:

- the incentives facing Multinet are the same throughout time;
- the operating expenditure forecast in the next regulatory period must be set consistently with how the rewards or penalties are calculated under the incentive mechanism;
- it be not easier for Multinet to achieve efficiency gains in the 2013-17 access arrangement period than in the 2008-12 access arrangement period (the reference to 'no clawback' is a reference to the carryover amount, not the operating expenditure forecast); or
- the operating expenditure forecast for the next period must be set using a base year estimate.

The incentive mechanism approved under clause 8.44 of the Gas Code simply provides for the carryover of a reward for five years after the year in which the gain was achieved and sets out a mechanism for achieving that goal, and only that goal.

The AER reads clause 5(1)(a) of Schedule 1 of the NGR as if it said it is required to "take into account the operation of [the ESC's intended] incentive mechanism". This is not what the clause says. In addition, the AER then ascribes to clauses 6.4 and 7.2(6) of Part B of Multinet's access arrangement certain intentions of the ESC which are not supported by any source material and are, in any event, wrong.

2.7.2.2 Effect of the transitional provision – negative carryover

The AER's analysis is flawed as the incentive mechanism approved under clause 8.44 of the Gas Code does not operate as the AER describes. In particular, the AER is wrong when it considers that incentive mechanism provides for the carry forward of losses. This is explained fully in section 7.3.

This error infects the AER's reasoning, which depends upon the incentive mechanism giving rise to a loss. At pages 143 and 144 of the Draft Decision the AER says[34]:

> "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 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."

The AER considers that the operating expenditure forecast for the next period needs to be set in such a way that preserves the "effective penalty facing Multinet". There is no penalty facing Multinet, and so the relationship the AER relies upon between such a penalty and the operating expenditure forecast in order to reject Multinet's bottom up build forecasting methodology is without foundation.

Furthermore, the AER's conclusion is also based on the false premise that Multinet's bottom up forecasts exceeds the projection of base year costs. As explained by Professor Williams, the AER's base year forecast has not been properly constructed. In section 2.11, Multinet shows that its total operating expenditure forecast for the forthcoming access arrangement period is less than the 5-year aggregate of a properly constructed cost projection from the base year of 2011. If this were not the case, Multinet would have maintained its existing business model and not commenced the transformation to the new business model, which has been undertaken at the shareholders' own expense.

Assuming that the Rules provided for a negative efficiency carryover – which they do not – the AER is wrong to conclude that Multinet's bottom up forecasts would undermine the penalty effect of a negative efficiency carryover. In fact, as shown in section 2.11 below, it would be the AER's base year forecast - properly constructed - that would provide Multinet with an easier target for the forthcoming access arrangement period.

2.8 Benchmarking of Multinet's actual and forecast opex

2.8.1 AER's views

The AER benchmarked Multinet's cost performance as part of its assessment of Multinet's operating expenditure forecasts. The AER commented[35]:

> "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

[34] Ibid, page 144.

[35] Ibid, page 145.

> efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services."

In its benchmarking assessment, the AER noted that Multinet's access arrangement information contained several benchmarking reports in support of its overall opex forecasts, including:

- 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.

- 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.

- A PPI analysis study by Marchment Hill Consulting comparing the performance of Multinet to USA and UK gas distribution businesses.

The AER concluded, however, that these reports do not provide any additional evidence to support Multinet's operating expenditure forecasts. The AER highlighted that 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, the AER also noted that Multinet has experienced declining productivity growth in recent years. 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

The AER commented[36]:

> "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."

2.8.2 Multinet response

It is important to recap that rule 91(1) requires Multinet's operating expenditure forecasts to satisfy the following requirements:

> 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.

Multinet does not accept that the AER's benchmarking analysis provides sufficient grounds to conclude that Multinet's operating expenditure forecasts fail to satisfy rule 91(1). In fact, the AER's analysis simply confirms the evidence submitted by Multinet that the current outsourcing

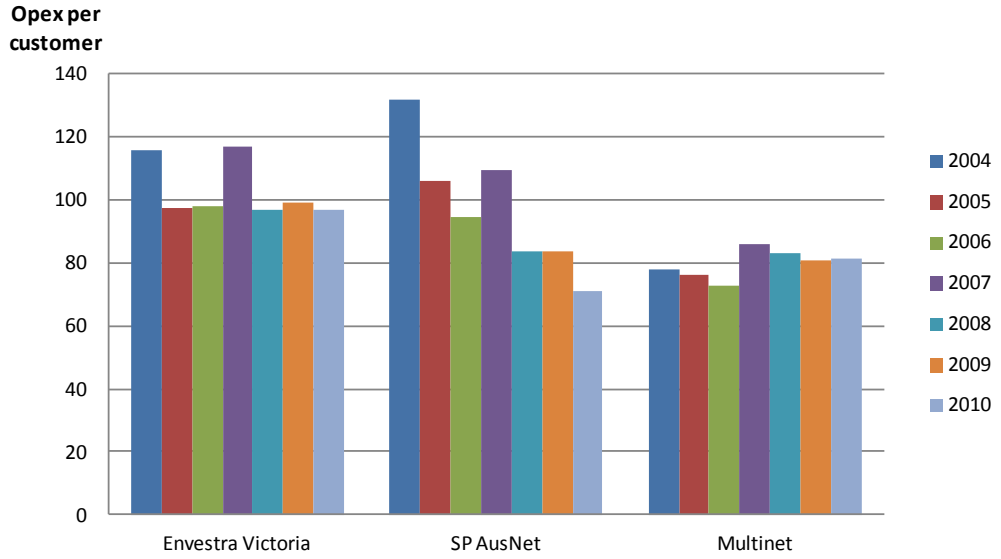
[36] Ibid, page 150.

model is no longer capable of delivering the rate of efficiency improvements achieved 10 years ago. Multinet's new business model has greater capacity to achieve sustainable efficiency improvements, consistent with rule 91(1).

It is helpful to examine the specific benchmarking material relied upon by the AER in rejecting Multinet's operating expenditure forecasts. The AER reproduces four graphs which are used to judge Multinet's productivity against SP AusNet and Envestra Victoria. The Draft Decision states[37]:

> "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.

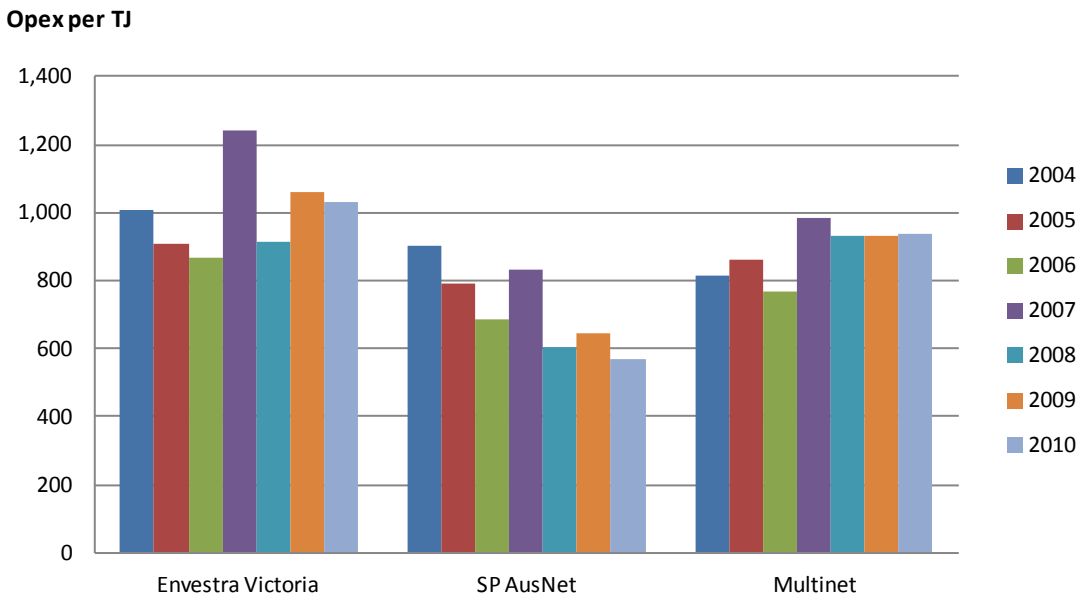
Figure 6.5 Benchmark of Victorian gas distribution service providers by opex per customer (2004–10) ($2012)



Source: AER analysis.

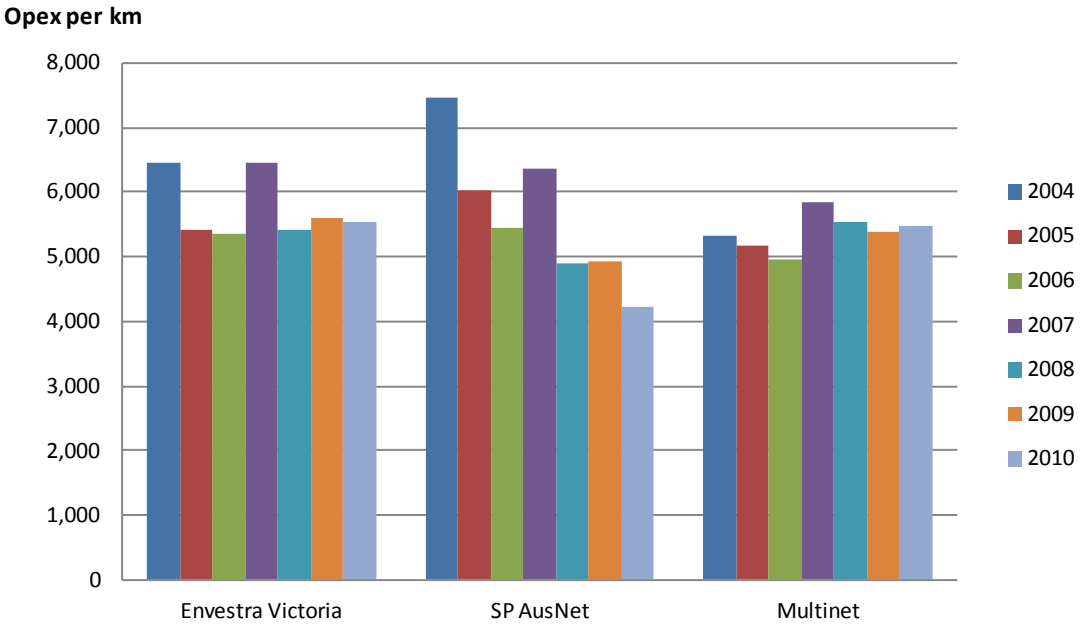
[37] AER, Draft Decision Part 2, pages 148 to 149.

Figure 6.6 Benchmark of Victorian gas distribution service providers by opex per TJ (2004–10) ($2012)



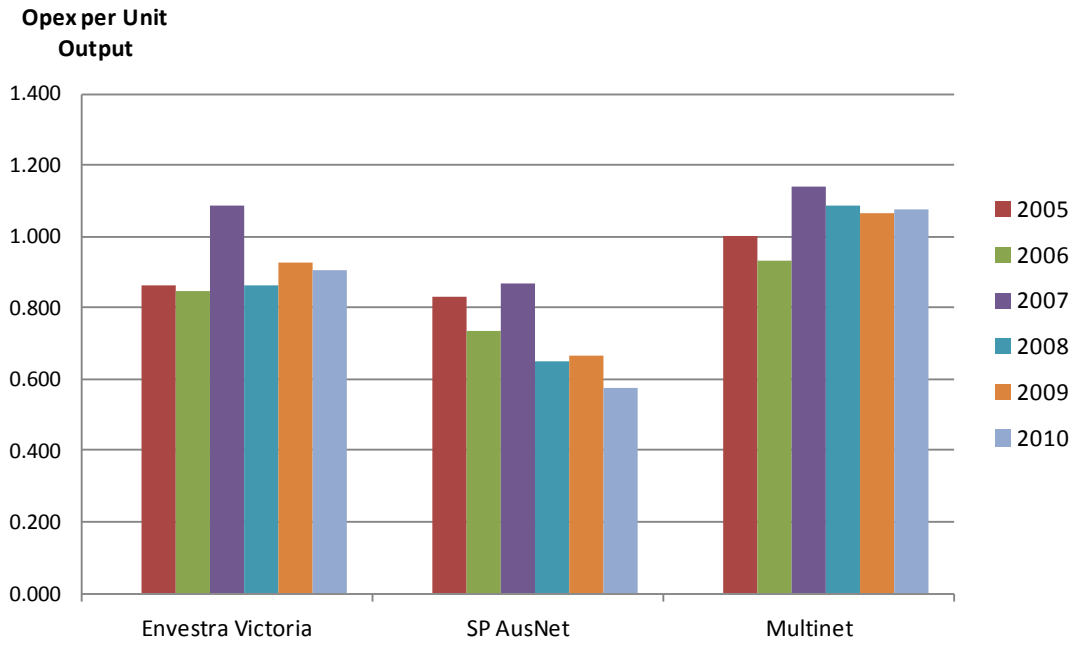
Source: AER analysis.

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.

The AER concludes that Multinet's performance on many PPIs is comparable with Envestra Victoria's performance, but inferior to SP AusNet's. However, based on the data presented in Figures 6.5 to 6.7 of the Draft Decision (cited above), Multinet's performance is superior to Envestra Victoria's as shown in the table below.

Table 2-9: Comparison of Envestra and Multinet performance against PPIs[38]

	Opex/customer	Opex/TJ	Opex/km	Opex/output	Average
Envestra Victoria	100%	100%	100%	100%	100%
Multinet	77%	86%	95%	119%	94%

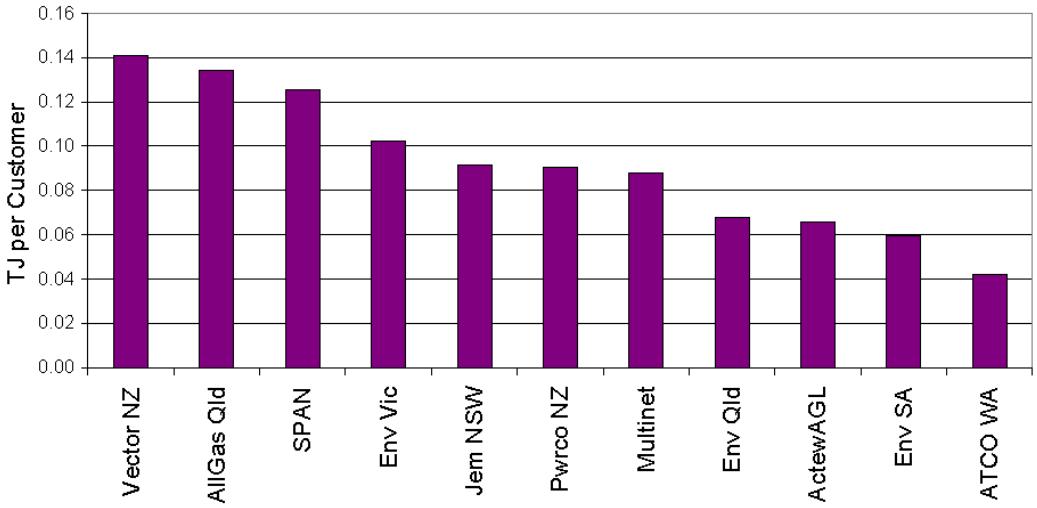
A simple average across all four measures shows that Multinet is 6 per cent superior to Envestra, but 23 per cent superior on a cost per customer measure. It is instructive, however, to consider critically whether opex/output is a reliable estimate of performance.

It is widely understood that performance measures are influenced by the physical characteristics of each network and customer usage. If a network has higher usage per customer ('higher energy

[38] Multinet analysis based on AER data

density'), then its operating expenditure per output will tend to be lower. Economic Insights provided the following comparison of energy density in a report for SP AusNet[39]:

Figure 3: **Energy density per customer, 2010**



Source: Economic Insights gas utility database

The above diagram shows that Multinet's energy density is approximately 15 per cent lower than Envestra's and more than 30 per cent below SP AusNet. These differences do not relate to the relative efficiencies of the network businesses, but rather describe the characteristics of their customers. If two network companies are otherwise identical, but one has a higher energy density then that company will perform better on an operating expenditure per output measure. In this hypothetical example, however, there would be no real efficiency difference between the two companies.

The evidence presented above suggests that, other things being equal, Envestra would appear to be approximately 15 per cent superior to Multinet on a per customer basis simply because of the difference in energy density. Differences in growth rates over time would also distort the inter-company comparisons. Based on the AER's own benchmarking, therefore, it would be reasonable to concluded that Multinet is more efficient than Envestra.

In terms of the absolute levels of productivity delivered by the Victorian businesses (which is good by international standards), it is instructive to examine the following analysis provided by Economic Insights[40]:

> "Comparing the three Victorian GDBs', JGN's and Envestra SA's TFP indexes, Envestra Victoria and SP AusNet had the highest TFP growth for the period up to 2009 (the latest year for which data are available for all the included GDBs) with average annual growth rates of 2.4 per

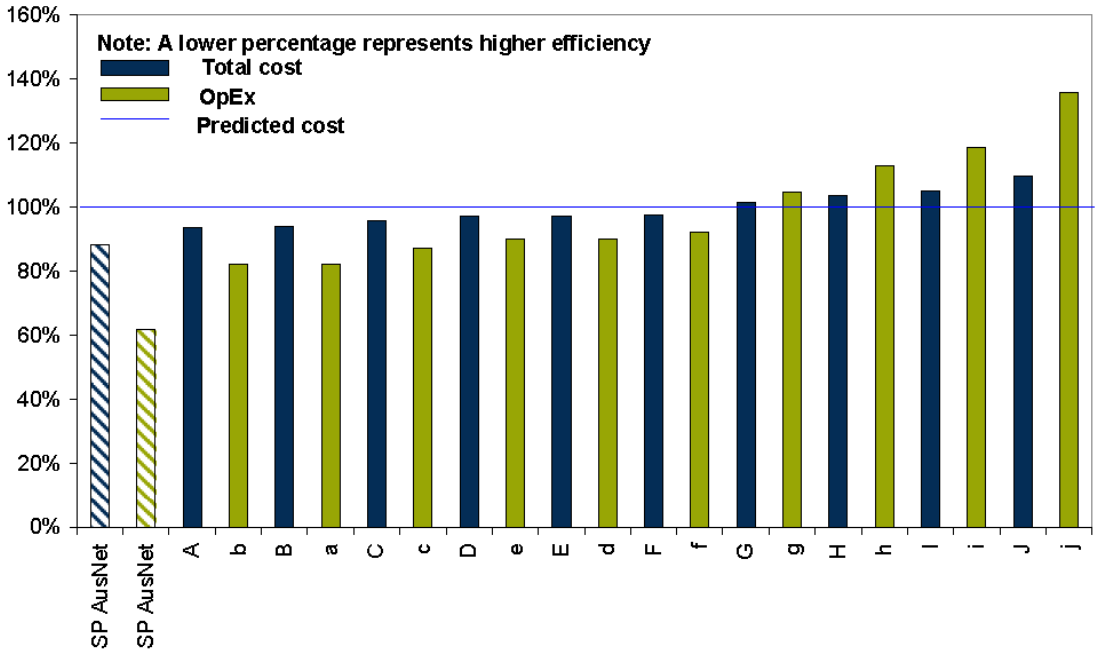
[39] *Econometric Estimates of the Victorian Gas Distribution Businesses' Efficiency and Future Productivity Growth Report* prepared for SP AusNet. Economic Insights, 28 March 2012. Pp. 11-12

[40] *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry* . Report prepared for Envestra Victoria, Multinet and SP AusNet 26 March 2012 Economic Insights - Denis Lawrence and John Kain. P. iii

cent and 2.3 per cent, respectively. They were followed by JGN and Multinet with average annual TFP growth rates of 1.9 per cent and 1.8 per cent, respectively. The smaller Envestra SA had the lowest TFP growth rate at a still very reasonable 1.4 per cent."

Economic Insights were separately commissioned by SP AusNet to calculate econometric estimates of the Victorian Gas Distribution Businesses' efficiency and future productivity growth. Economic Insights' analysis for SP AusNet provides this assessment, as follows[41]:

Figure A **Actual total cost and opex as a percentage of those predicted by the translog cost function model, 2010**



"SP AusNet's actual opex cost was 38.4 per cent less than that predicted by the model for 2010 – SP AusNet is the best opex cost efficiency performer by a wide margin when scale, customer density and energy density effects are taken into account with the next best performer's actual opex cost being 17.8 per cent less than that predicted by the model."

It is clear that SP AusNet's current normalised productivity performance is exceptional. As such, it is not an appropriate benchmark for the AER to use in setting Multinet's future operating expenditure. Efficiency in the context of rule 91 does not mean the most efficient network company. If this were the standard of efficiency, then only 1 company would be able to recover its costs. It is evidence, however, from the Revenue and Pricing Principles in the National Gas Law that this is not the appropriate standard.

It would appear that the AER's judgement that Multinet's operating expenditure is not efficient is based solely on Economic Insight's observation that:

[41] Ibid p. ii

> "Multinet's TFP index exhibits relatively strong growth up to 2003 but much more modest growth since then. The average annual growth rate was 0.8 per cent the last 10 years but this has reversed to –0.5 per cent for the last 5 years, driven in part by a fall in output in 2011".[42]

However, TFP is a long-run indicator. It is not appropriate for the AER to judge Multinet as a relatively poor performer in TFP growth on the basis of one year over a ten-year assessment cycle. Multinet's productivity gains up to 2003 reflect its advanced initiatives with outsourcing. That these gains plateau in a period where JAM provided the services at a price below cost is evidence that Multinet's costs were at the efficiency frontier in 2003 and that other companies have caught it up.

The standard that the AER is required to apply to its determination of operating expenditure allowances is that of a service provider acting efficiently, in accordance with accepted good industry practice. The AER's analysis does not support its claim that a baseline of JAM's actual (rather than contracted) costs plus a reasonable margin do not meet this standard. As previously noted, the incentive properties in the OSA would allow a reasonable inference to be drawn that the actual costs are efficient. Furthermore, as the AER has allowed Envestra's service provider, APA, to earn a margin on a contract that allows for cost recovery – and therefore has weaker incentives to minimise costs – the benchmarking information presented by the AER does not support its conclusion that JAM's loss should be 'locked in' whereas APA earns a gross margin of more than 6.4 per cent[43].

2.9 Unaccounted for gas (UAFG)

2.9.1 Draft Decision

Page 149 of Part 2 of the Draft Decision states:

> "Clause 4.10 of Multinet's terms and conditions 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). It considers the actual UAFG data for 2010 is the most appropriate benchmark for the 2013-17 access arrangement period.
>
> The Victorian Gas Distribution System Code only provides for the setting of UAFG benchmarks by the ESC up to 2012. 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."

2.9.2 Multinet response

[42] *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry* . Report prepared for Envestra Victoria, Multinet and SP AusNet 26 March 2012 Economic Insights - Denis Lawrence and John Kain. P. 48

[43] Frontier Economics, Expert Opinion from Professor Phillip Williams on the AER's approach to forecasting Multinet's operating expenditure, November, 2012, paragraph 35.

2.9.2.1 Regulator's power to establish benchmarks for UAFG for 2013-2108

In the Draft Decision, the AER states that:

- There is no provision for benchmarks to be set beyond this date [2012] by the ESC; and
- The AER cannot set the benchmarks in the Gas Distribution System Code.

Multinet considers that the Victorian Gas Distribution Code (GDC) is part of the declared metering requirements, specifically including Part C1 of Schedule 1 of the GDC in accordance with the Ministerial Order published in Gazette S222, 30 June 2009. Furthermore, clause 2.4 of the GDC establishes a process for the reconciliation of UAFG.

The NGVA provides the following powers to the AER:

- Clause 32 allows the AER to request the ESC to amend the GDC. The ESC may after consulting with the AER, amend the GDC.
- Under clause 28 certain ESC functions and powers are imposed on the AER on/after the day on which a revised distribution access arrangement is deemed to be approved by the AER. This conferral of powers also relates to any functions or powers the ESC had immediately before that day that relates to the economic regulation of the distribution pipeline services.

Multinet considers that UAFG benchmarks are required under the declared wholesale gas market arrangement, NGR 235 (8). The gazettal, S222, clearly includes the UAFG benchmarks established in the GDC as the benchmarks to apply as part of the declared metering requirements.

If the establishment of UAFG benchmarks and the amendment to the GDC is considered to be an economic regulation function of distribution pipeline services provided by Multinet, then the amendment to GDC would be the responsibility of the AER. If the alternate view were taken that UAFG is a non economic regulatory function, the amendment is the responsibility of the ESC.

The AER has notified Multinet that it will make a Final Determination on the access arrangement for the 2013-2018 period in March 2013. The next access arrangement is likely to take effect on 1 July 2013. This has created a delay period and during this time, Multinet considers that it is within the ESC's power to provide that the 2013 benchmark UAFG proposed by Multinet may be used until the new benchmarks are established for the forthcoming access arrangement period. Multinet considers that the ESC should amend the GDC using Multinet's proposed benchmarks for the forthcoming access arrangement period.

In order that there are no benchmarks at all if there is a delay period in the next access arrangement, the AER should clearly state in its amendments that the 2018 benchmark continues in the event of a delay period in 2019. The AER Final Determination for the 2019-2023 can deal with any true up process that might be required in the event that this grandfathering approach is adopted.

2.9.2.2 Multinet's proposed UAFG benchmarks

Multinet is disappointed and concerned regarding the unresolved status of the arrangements for UAFG for the forthcoming access arrangement period. As noted above, it is a requirement for the

proper functioning of the Victorian gas market that this matter be resolved satisfactorily. Multinet has held discussions with the Victorian Government and the AER, in an effort to progress a resolution of these matters. At this time, a satisfactory resolution has not been reached.

Multinet will continue to participate actively and constructively in discussions with the Victorian Government, the AER and other industry participants to expedite a satisfactory resolution of the arrangements for UAFG for the forthcoming access arrangement period. In the meantime, Multinet would caution against the "easy option" of simply rolling forward the existing benchmarks into the forthcoming access arrangement period.

Chapter 12 of Multinet's March 2012 AAI provide a detailed substantiation of the company's proposed UAFG benchmarks for the forthcoming access arrangement period. Multinet re-iterate that UAFG is a simple measures with a large number of contributing factors that vary over time. There is no empirical evidence to establish a link between the replacement of cast iron pipe and a decline in actual UAFG. Multinet's actual UAFG has not declined since 2003, even though the company has replaced approximately 800km of low pressure pipe since 2003. Multinet regards the actual UAFG data for 2010 to be the most appropriate benchmark for the forthcoming Access Arrangement period. Multinet therefore re-iterates its earlier proposal to set an efficient benchmark for the forthcoming period using the latest available actual UAFG data.

The company stands by the proposed benchmarks, which are set out in the table below:

Table 2-10: Multinet's proposed UAFG benchmarks

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Class A	0.3%	0.3%	0.3%	0.3%	0.3%
Class B	4.4%	4.4%	4.4%	4.4%	4.4%
Non- PTS	3.0%	3.0%	3.0%	3.0%	3.0%

In the event that the Victorian Government and the AER are unable to resolve the UAFG benchmarks for the forthcoming access arrangement period, Multinet would be exposed to a high level of uncertainty, and may be unable to recover costs associated with the operation of a UAFG scheme. In light of this uncertainty, the Revenue and Pricing Principles require the application of a pass-through mechanism that would enable the company to recover all costs associated with the operation of a UAFG scheme. Accordingly, Multinet proposes that a UAFG pass through event should be defined, to enable the recovery of all costs incurred by Multinet as a result of the operation of a UAFG scheme. In accordance with the reasoning applied by the AER in relation to the NECF-specific cost pass, the pass through of UAFG related costs would not subject to a materiality threshold.

2.10 Multinet's revised operating expenditure forecast

The Rules require a forecast to represent the best estimate possible in the circumstances.

The Draft Decision rejected Multinet's bottom-up operating expenditure forecast, and instead adopted a forecast based on an approach which incorrectly assumes that history is the best guide to forecasting Multinet's operating expenditure. The AER's approach does not reflect Multinet's circumstances, as the existing outsourcing contract expires on 30 June 2013, and a new business model is being implemented.

Multinet maintains its view that the substantial change in the company's circumstances necessitates a 'bottom up' operating expenditure forecast.

In this revised proposal, Multinet has systematically addressed all of the matters raised by the AER in its Draft Decision. In particular, Multinet has commissioned new independent experts to revisit Multinet's original forecasts and to identify any information gaps or deficiencies:

- AECOM conducted a fresh review of the work volumes volume forecasts,
- Grant Thornton reviewed Multinet's internal resource requirements
- Grant Thornton also provided an assessment of the overall operating expenditure forecasts, stating that in its opinion Multinet's revised operating expenditure forecasts meet the requirements of rules 74(2) and 91.

The above reports are provided as appendices. The overarching sign-off contained in Grant Thornton's report, however, is key to the AER's deliberations. Paragraph 2.3 of Grant Thornton's report states:

> "Based on our review, the reforecast based on the bottom up approach represents the best forecast or estimate possible in the circumstance and 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 per Rules 74 and 94. In particular:
>
> 2.3.1 The unit costs for the outsourced services to Aegis, Skilltech, Logica and Accenture reconcile to the contract and were obtained via competitive tender processes;
>
> 2.3.2 The reforecast was benchmarked to available data such as AT Kearney's internal staff benchmarking for Victorian gas distributors, Geoff Nunn's remuneration report and actual remuneration of existing staff; and
>
> 2.3.3 Where detailed costs were not available, management's best estimate was relied upon. Although, we are unable to confirm the reasonableness of individual amounts, the year 4 method supports that the total Opex is not unreasonable."

This process of further review undertaken by Multinet has enabled the company to make improvements to its original forecasts. The revised forecasts - presented in the following table - are lower than those in Multinet's original proposal, but remain very substantially above the position adopted by the AER in the Draft Decision. It is noted that the data in the table below do not include debt raising costs.

Table 2-11: Overview of Multinet's revised forecast operating expenditure ($m, real 2012)

	YEAR ENDING 31 DECEMBER					Total
	2013	2014	2015	2016	2017	
Network Operations	33.7	37.8	39.1	38.4	37.9	**186.9**
Customer and Market Services	10.2	9.5	9.4	9.3	9.3	**47.6**
IT Services	7.9	8.1	7.9	7.9	7.9	**39.8**
Corporate Services and Other Internal Costs	12.5	13.8	14.1	14.1	14.1	**68.7**
Total	**64.4**	**69.2**	**70.5**	**69.8**	**69.2**	**343.0**

Multinet is confident that the information presented in this revised proposal demonstrates that the company's revised operating expenditure forecasts meet the requirements of rules 74 and 91, and therefore must be accepted by the AER in accordance with the provisions set out in rule 40(2).

Multinet appreciates that the AER is concerned to understand the drivers of the changes in the company's operating expenditure forecasts, in light of actual expenditure in the current period. Accordingly, section 2.11 below presents a reconciliation of Multinet's actual operating expenditure in the current period with the operating expenditure forecasts for the forthcoming access arrangement period. Section 2.12 then concludes this chapter by providing a reconciliation of Multinet's revised operating expenditure forecast and its original forecast.

2.11 Reconciliation of operating expenditure forecast with recent actual expenditure

In the course of reviewing Multinet's original proposal, the AER asked Multinet to provide:

- clear and comprehensive written explanations of all factors it has identified that are contributing to its actual and forecast increase in operating expenditure between 2010 and 2014;
- robust forecasts of the cost impact of all these factors on Multinet's operating expenditure between 2010 and 2014;
- a supporting model demonstrating how those forecasts have been calculated and the underlying assumptions behind the forecasts; and
- clear and comprehensive written explanations as to why it was or is a prudent and efficient response by Multinet to increase its operating expenditure in response to the factors it has identified.

Multinet's response was set out in a document titled "Response to AER question 10", submitted to the AER on 20 June 2012. In its response, Multinet explained that[44]:

> "In summary, the principal factors that have led to increases in operating expenditure between 2010 and 2014 are:
>
> - The elimination of JAM's losses and the inclusion of a reasonable margin for outsourced contracts, following the expiry of the existing Operating Services Agreement.
> - The additional reporting and governance requirements that service providers must satisfy under the new business model.
> - The costs arising from new or increased outputs, which are referred to as scope changes.
> - Cost escalation applying to tender costs over the period commencing in 2013, which reflect the outcome of the competitive tender process.
> - Labour cost escalation for internal labour costs.
> - The costs of laying the foundations for the new business model, including the development and execution of the tender exercise and the bedding-in of the new business processes.
> - The costs associated with delivering increased business outputs, as measured by the growth in customer numbers."

The analysis submitted in June essentially provides a cost-benefit assessment of the new business model compared to a continuation of an OSA-style contract and associated business structure. The factors listed above are the adjustments that must be made to the actual operating expenditure in 2011 to produce a valid 'status quo' projection. This methodology remains valid and is consistent with Philip Williams' expert opinion, although several parameter values have changed since Multinet prepared its response to question 10 in June of this year.

It is noteworthy that the AER used the 'status quo' projection to determine Multinet's operating expenditure allowance. As explained in section 2.2, this approach is not valid because Multinet is not renewing the OSA. Furthermore, the AER's inputs to the status quo model were unrealistic because it assumes that JAM will continue to provide services at a loss.

Although the AER's forecasting approach is not valid, Multinet accepts that its operating expenditure forecasts should be tested against alternative options – including a reasonable characterisation of the status quo – to verify that Multinet's preferred business model is delivering the lowest sustainable costs. It is essential, however, that the inputs to the status quo model are appropriate. This is precisely the exercise that Multinet set out in June.

[44] Multinet, Gas Access Arrangement Review 2013-2017: Response to AER question 10, page 4.

Independently, Grant Thornton has undertaken a comparison of Multinet's updated forecasts with a properly constructed projection of base year (year 4) costs. The approach adopted by Grant Thornton is consistent with Multinet's June approach and the independent expert opinion provided by Professor Williams. Importantly, the analysis contained in the Grant Thornton report is identical to Multinet's updated analysis (summarised below), with the exception of a single line item; namely, cost over-shooting. Grant Thornton did not have the opportunity to review this particular line item, however, as noted in appendix 2-13, Multinet has provided testimony to substantiate this item.

The results of Multinet's updated analysis are summarised in the table below. Multinet will provide the AER with a copy of the spread sheet used in this analysis. To assist the AER, the table shows how Multinet's assessment of the status quo option has changed from June, and how it compares with the assessment set out by the AER in the Draft Decision.

Table 2-12: Projection of Multinet's 2011 base year costs ($ 000, real 2012)

	Response to AER Q 10	Draft Decision	Multinet Update
2011 Statutory Accounts	58,551	58,551	58,551
Less EPG fee not substantiated by audit	-2,681	-2,681	-2,681
Less marketing costs for new towns	-204	-204	-204
Less Licence fees	-136	-136	-136
Less UAFG	-2,536	-2,536	-2,536
Total regulated cost for 2011 in 2011 dollars	**52,994**	**52,994**	**52,994**
Adjust regulated cost to derive efficient base cost			
Less EPG fee not substantiated by audit	-	-2,897	-
Less difference between 2012 and 2011 benchmark	-	-294	-
plus JAM Loss	5,056	-	5,056
plus JAM Margin	2,430	-	2,430
Efficient base opex for 2011 in 2011 dollars	**60,480**	**49,804**	**60,480**
Add CPI to convert base 2011 opex to 2012 dollars	62,609	51,557	62,609
Aggregate base opex over 5 years in 2012 dollars	**313,044**	**257,784**	**313,044**
Add cost drivers over the 2013 to 2017 period			
Labour escalators	28,091	6,844	10,632
Material escalators	-	-	-
Cost over-shooting	-	-	2,500
Scope changes			
- Network development	10,000	-	10,000
- EEO	1,500	500	500
- Carbon Tax Admin	1,500	544	544
- Compliance reporting	500	-	-
- GAAR costs	-700	-700	-700
- Metering increase	11,292	-	13,550
- New connections function	7,500	-	-
- ESV levy	-	-	9,000
Sub - total Scope changes	**31,592**	**344**	**32,894**
Output growth	6,348	2,490	3,037
Total opex allowance over 5 years (2013 to 2017) in 2012 dollars	**379,075**	**267,461**	**362,106**

It is noted that the key difference between Multinet's revised projection of 2011 base year costs and the AER's Draft Decision are as follows:

- The Draft Decision stated:

> "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."[45]

Multinet considers that the AER has made an error in relation to this matter. Multinet has referred the Draft Decision to the auditors who prepared the information referred to by the AER. Attached as Appendix 2-11 is the 2010 audit report clarified to state that all of costs have been audited. Also attached as Appendix 2-12 is the audit report for the 2011 regulatory accounts, which was provided to the AER as part of the regulatory accounts submitted on 30 April 2011. The reports show that the audited amount for DUET costs for 2010 is $3.791 million, and $6.535 million for 2011.

- Multinet's calculations do not adjust the 2011 actual expenditure for the "efficiency gain" implicit in the difference between the expenditure benchmarks for 2011 and 2012 set by the ESC in its 2007 GAAR Final Determination. This is because, as noted in Multinet's AAI:
    - The expenditure benchmarks set by the ESC in 2007 wrongly assumed that Multinet could continue to find efficiency improvements to offset expected increases in costs[46].
    - Multinet's response to the 2008-2012 GAAR Draft Decision highlighted the company's legitimate concern that the ESC's operating expenditure benchmarks were too low[47].
- Multinet's calculations adjust Multinet's 2011 reported costs to add back the loss made by JAM in that year for the provision of OSA services. This is consistent with the independent expert opinion provided by Professor Williams, as noted in section 2.3.2 of this document.
- Multinet's calculations adjust Multinet's 2011 reported costs to include a normal margin for JAM on its costs of providing OSA services. This is consistent with the AER's Draft Decision to include in its Draft Decision for Envestra an allowance for the network management fee payable by Envestra to its principle contractor. Multinet's inclusion of this adjustment is also consistent with the independent expert opinion provided by Professor Williams.
- Multinet has adopted a higher real labour cost escalation rate than the AER has, for the reasons set out in section 2.6.8.
- Multinet has adopted a higher forecast of the costs associated with scope changes than the AER has, for the reasons set out in section 2.6.
- Multinet has adopted the output growth scale factor of 38 per cent as set out in the Draft Decision, but this is applied to a slightly higher forecast of customer numbers, which the AER accepted in its Draft Decision on Multinet's customer number forecasts, as noted in section 9.2 of this document.

[45] AER Draft Decision Part 2, page 158.
[46] Mulitnet AAI, page 38.
[47] Ibid, page 179, 181.

The bale above shows that Multinet's projection of efficient base year (2011) costs implies a total 5-year operating expenditure allowance of $362 million] over the forthcoming access arrangement period. This projection is $19 million above Multinet's revised operating expenditure forecast of $343 million as set out in section 2.10. This difference can be considered to be an indication of the cost reductions that Multinet will achieve - relative to a properly constructed projection of costs under status quo assumptions - as a result of moving to its new business model.

The proper application of the AER's base year forecasting approach demonstrates clearly that Multinet's revised operating expenditure forecast (set out in section 2.10) represents a forecast of the expenditure 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.

2.12 Explanation of differences between original and revised operating expenditure forecasts

The table below provides a reconciliation of Multinet's revised operating expenditure forecast and its original forecast.

Table 2-13: Revised operating expenditure forecast reconciled to original forecast (excluding debt raising costs)

Description	$m	Comments / explanation
Original submission	**359.7**	
Less		
- Double count in GAAR forecast	(1.8)	Identified by Grant Thornton review
- Transition costs reforecast	(1.8)	Identified by Grant Thornton review
- Communications reforecast	(0.7)	Identified by Grant Thornton review
- Removal of NECF in tender	(0.7)	Identified by Grant Thornton review
- Network volumes	(5.6)	Identified by AECOM review
- Network transition	(3.6)	Identified by internal review
- Labour reforecast	(7.5)	Identified by various parties
- Scope adjustment	(2.0)	Accept AER draft decision
- CMS direct cost	(0.9)	Identified by Grant Thornton review
- Miscellaneous	(1.1)	Identified by Grant Thornton review
Plus		
- ESV Levy	9.0	Letter from ESV dated 30 July 2012. Refer to section 2.6.11.
Revised forecast	**343.0**	

3. Forecast Capital Expenditure

3.1 Overview

The Draft Decision rejected Multinet's forecast of total capital expenditure of $375.3 million ($2012) for the forthcoming access arrangement period, and instead adopted a total capital expenditure allowance of $177.7 million ($2012). The allowance proposed by the Draft Decision is 53 per cent below the forecast provided by Multinet. This is a significant reduction, and sets an expenditure allowance below the level of capital expenditure incurred by Multinet in the current period. If imposed, this reduction would place Multinet in a position of being potentially unable to fulfil all of its obligations under the Rules. It will also lead to cost increases in operating and maintenance costs. That said, Multinet is mindful that parts of its AAI did not, in the AER's view, contain sufficient information to enable the AER to consider Multinet's proposals, and so additional detailed information is provided as part of this response.

Multinet does not accept the proposed capital expenditure allowances set out in the Draft Decision because they fail to satisfy the requirements of rule 79.

The remainder of this chapter sets out Multinet's response to the capital expenditure elements of the Draft Decision, and presents Multinet's revised capital expenditure proposals in light of the Draft Decision. Appendix 3-1 provides a copy of the detailed spread sheet model used by Multinet in the preparation of its revised capital expenditure forecast.

Multinet is confident that the information presented in this revised proposal provides the best central forecast of the company's total capital expenditure over the forthcoming access arrangement period, in accordance with the requirements of rules 74 and 79. Multinet's revised forecasts must be accepted by the AER in accordance with the provisions set out in rule 40(2).

This chapter is structured as follows:

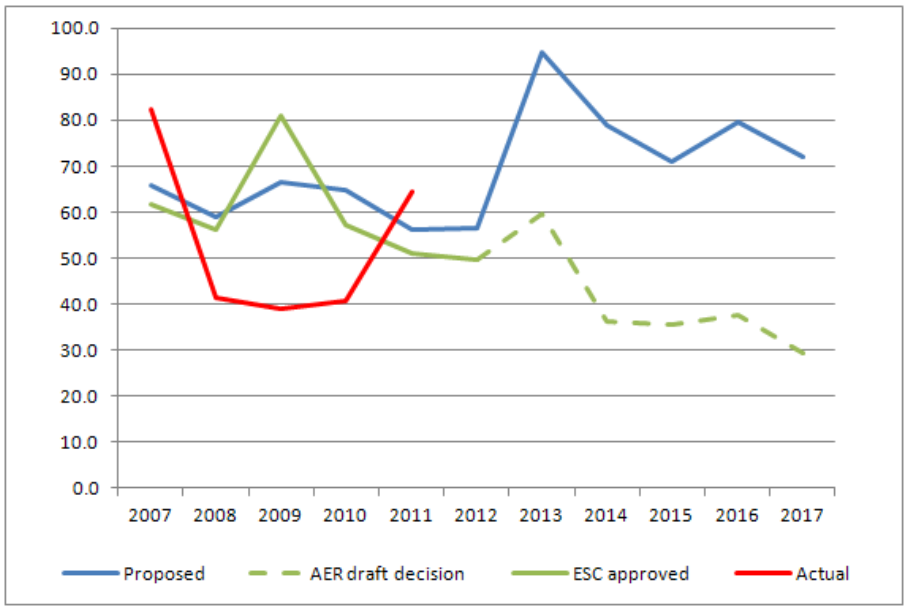
- Section 3.2 presents a summary of the Draft Decision's proposed capital expenditure allowances. The issues arising from the Draft Decision are identified in broad terms.
- Sections 3.3 to 3.11 inclusive present Multinet's responses on each of these issues.
- Multinet's revised capital expenditure forecast is set out at the conclusion of this chapter in section 3.12.

3.2 Draft Decision and issues arising

The Draft Decision rejected Multinet's capital expenditure forecast of $375.3 million ($2012) for the forthcoming access arrangement period, and instead adopted a total capital expenditure allowance of $177.7 million ($2012).

Figure 3-1 below reproduces Figure 6.1 of the Draft Decision. It shows the capital expenditure benchmarks adopted by the ESC for the period from 2008 to 2012, Multinet's actual and forecast capital expenditure, and the Draft Decision allowance for the forthcoming access arrangement period.

Figure 3-1: Comparison of Multinet's past and forecast total capital expenditure and AER Draft Decision ($m, real , 2012)



Source: AER Draft Decision Part 1, Figure 6.1.

The table below reproduces Table 6.1 of the Draft Decision. It presents a comparison of Multinet's capital expenditure forecast by category, and the AER's proposed capital expenditure allowance for each category for the forthcoming access arrangement period.

Table 3-1: Comparison of Multinet's capital expenditure forecast and the AER's Draft Decision for the forthcoming access arrangement period ($m, real , 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 Draft Decision Part 1, Table 6.1.

The table above shows that with the exception of customer contributions, the Draft Decision proposes very significant reductions in Multinet's capital expenditure forecast, across all categories.

Multinet does not accept the Draft Decision's proposed capital expenditure allowances, on the basis that those allowances do not satisfy the requirements of rule 79.

The Draft Decision raises issues in relation to the capital expenditure allowances proposed for all categories other than customer contributions. Multinet's responses in relation to these issues are set out as follows:

- Section 3.3 sets out Multinet's response on mains replacement capital expenditure.
- Section 3.4 provides Multinet's response on residential connections.
- Section 3.5 details out Multinet's response on commercial/industrial connections.
- Section 3.6 sets out Multinet's response on meter capital expenditure.
- Section 3.7 provides Multinet's response on augmentation capital expenditure.
- Section 3.8 details Multinet's response on IT capital expenditure.
- Section 3.9 presents Multinet's response on SCADA capital expenditure.
- Section 3.10 sets out Multinet's response on Other capital expenditure.
- Section 3.11 details Multinet's response on internal direct overheads.

Multinet's revised capital expenditure forecast is presented in section 3.12.

3.3 Mains replacement

3.3.1 Overview of Draft Decision

The Draft Decision noted that Multinet proposed to undertake mains replacement capital expenditure of $121.3 million ($2012, direct costs) for four categories of mains replacement programs. The Draft Decision made amendments to each of these programs. The most substantial amendments included the following changes:

In relation to low pressure (LP) mains replacement, the Draft Decision reduced Multinet's proposed scale of works and unit costs, on the following basis:

- The Draft Decision noted that in the current access arrangement period Multinet met the relevant safety requirements despite replacing fewer LP mains than it had proposed. The AER considered that the volumes of replacement works delivered by Multinet in the current access arrangement period provide a robust benchmark for the replacement that a prudent and efficient service provider would undertake. Hence, the AER proposed to use historic volumes delivered over the current period to set the scale of works for the forthcoming access arrangement period. However, to allow for changing circumstances, the AER also proposed that a pass through event should apply, where the trigger event is the completion of approved volumes.

- The Draft Decision noted that Multinet's unit costs 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, the AER contended that as works with lower unit rates tend to be undertaken first, the unit rates needed to be adjusted in line with the volume adjustment described above.

In the case of large diameter cast iron mains replacement, the Draft Decision noted that Multinet proposed five replacement projects for the forthcoming access arrangement period. The AER considered that Multinet did not demonstrate adequately that these projects were necessary, and that a proactive rather than reactive program was justified. For these reasons the AER did not approve Multinet's proposed program of works for the forthcoming access arrangement period.

The Draft Decision noted that Multinet proposed a program for managing low pressure designated zones that are not expected to be replaced in the next 20 years. The AER considered that Multinet did not adequately justify this program. The AER also contended that Multinet had not provided sufficient evidence to demonstrate that the current practice for managing gas leaks is inadequate. For these reasons the AER did not approve Multinet's proposed program of works relating to low pressure designated zones for the forthcoming access arrangement period.

The amendments set out in the Draft Decision result in a 58 per cent reduction in Multinet's proposed mains replacement capital expenditure (from $121.3 million to $44.8 million).

3.3.2 Multinet response: Low pressure mains replacement

As explained in section 5.7.3 of Multinet's AAI, the company's actual LP mains replacement (Pipeworks) expenditure in the current access arrangement period fell short of the forecast, due a reduction in the volume of Pipeworks delivered compared to the regulatory benchmark.

There are two main reasons for this:

- Capital expenditure programs will only attract the necessary investment funds if investors have reasonable confidence that the rate of return to be provided over, say, 10 successive regulatory periods (50 years) will be commensurate with the risks involved. In the 2008 GAAR, the ESC made an unprecedented and unexpected decision to reduce the equity beta from 1 to 0.8, which was out-of-step with all previous regulatory decisions. The ESC also flagged the possibility of a further reduction in the equity beta, which spooked investors and reduced confidence in the regulatory regime. Investors were unwilling to fund capital expenditure to the extent that Multinet had assumed at the time of its regulatory proposal. Effectively, investors downgraded regulated networks and re-assessed their investment priorities. The decision to defer a proportion of the Pipeworks program naturally followed as funding became unavailable.

- Following the global financial crisis in September 2008, Multinet faced further severe capital constraints. The unprecedented shift in perceptions of risk reinforced investors' concerns that followed the 2008 GAAR decision. The pressure for increased capital expenditure in other aspects of Multinet's business – most notably IT capital expenditure – created additional pressure to defer a proportion of the planned Pipeworks program.

Fortunately, as the Draft Decision notes correctly, the deferral in Pipeworks capital expenditure has been achieved without affecting service performance in the current access arrangement period.

Multinet also notes that customers will benefit from lower prices in the future as Multinet's regulated asset base is lower as a result of the deferral.

Nonetheless, the unavoidable deferral of Pipeworks expenditure in the current access arrangement period has heightened risks associated with Multinet's aging low pressure network. The AER's proposal to base Multinet's Pipeworks expenditure allowance for the forthcoming access arrangement period on the current period's actual expenditure will have the effect of maintaining the current level of risk. For these reasons, Multinet's actual level of expenditure in the current period does not provide a robust benchmark for the replacement that a prudent and efficient service provider would undertake in the forthcoming access arrangement period.

It is noted that the Draft Decision proposes a cost pass through mechanism in relation to a Mains Replacement Event, however Multinet considers that the proposed mechanism is unsatisfactory for the following reasons:

- Firstly, the company is required to spend its total allowance prior to the end of the five year access arrangement period before it can apply for a pass through. Therefore, Multinet would be required to fund an increase in capital expenditure in the early part of the period (for instance, it would have to spend 5 years of the capital expenditure allowance over, say, three years) and then make an application for any additional amount. Multinet's practice is to arrange funding for the benchmark expenditure allowances at the commencement of the relevant access arrangement period. Any expenditure in excess of these amounts is subject to financing costs at that time. This leaves Multinet exposed to additional financing risk.

- Secondly, there is no guarantee that that the AER will approve a pass through application if Multinet's actual expenditure exceeds the regulatory allowance. This uncertainty provides a strong incentive for Multinet not to exceed the (unduly low) regulatory expenditure allowance, even if there is a robust economic case for exceeding the allowance.

- Finally, the pass-through application is subject to a high threshold (being 1 per cent of smoothed annual revenue). Under this arrangement, the company is penalised if it expends an additional amount with falls below the threshold. Application of such a penalty serves no economic purpose, especially if the company's actual expenditure is consistent with the forecasts it provided at the commencement of the access arrangement period. It is also arguable that the AER's proposed arrangements may provide a perverse incentive for the company to undertake a level of additional expenditure that exceeds the threshold, simply to have a chance of recovering the cost.

Multinet is in a position to accept the AER's Draft Decision subject to the following changes:

- The forecast program should provide for the replacement of 274 km of pipeline, instead of 240 km.

- The unit rate should be amended.

- The cost pass through mechanism should be emended to an annual (and cumulative) mechanism.

Each of these changes is discussed in detail under separate subsection headings below.

3.3.2.1 The replacement program should be increased to 274 km

Multinet considers that there are sound reasons relating to considerations of risk and reliability for the capital expenditure allowance to provide for a volume of replacement higher than that proposed in the Draft Decision.

Increased exposure to, and incidence of large diameter cast iron mains leaks and failures over recent years has resulted in a need to replace at an increased rate for the forthcoming access arrangement period. In addition, a return to average rainfall levels over the past two years has resulted in increasing reliability related issues which were not experienced to the same extent in the 2008 to 2010 period.

In view of these considerations, Multinet's proposed construction volumes for the forthcoming access arrangement period is higher than the AER's proposed volumes.

Multinet has reviewed the AER's proposed approved projects and project mix. We consider that the AER's proposal does not align with Multinet's long term strategic replacement plan, in relation to network capacity, aged asset removal, and staged high pressure network expansion. Multinet's proposed program is prudent and the proposed works are of sufficient priority to justify their completion in the forthcoming access arrangement period.

Multinet considers that the AER has failed to acknowledge the scope, timing and interdependency of projects both within the Low Pressure to High Pressure pipeworks program, and also the large diameter cast iron replacement program. The AER has taken an arbitrary view of the pipeworks program on the basis of an assumption that projects are readily interchangeable. The AER's assumption is incorrect.

Multinet's proposed LP to HP renewal program has a strong emphasis on the prioritisation of replacement and removal of assets that mitigate current and longer term public and personnel safety risks. The LP to HP renewal program also assists in the removal of large diameter ageing cast iron mains operating at low or medium pressures. As noted in section 3.3.3 below, these assets have demonstrated increased failure rates in recent times leading to increased risk to public and personnel safety.

On the basis of the AER's adjustments to Multinet's program, Multinet has been required to thoroughly review the program to determine whether the proposed AER program is appropriate given network capacity, network interconnection and other project timing interdependencies.

Multinet has programmed in strong interdependencies between a number of projects within the Large Diameter Cast Iron replacement program and the Low Pressure to High Pressure replacement program. In addition, the programming of specific projects has strong interdependency with the removal of large diameter cast iron medium pressure assets in the immediate and northern area of Multinet's territory.

For example, the proposed Kew project enables not only the replacement of ageing Low Pressure mains with High Pressure assets. It also enables the abandonment of large diameter cast iron assets that have historically been problematic from a leak point of view, and which pose greater risk to the public and personnel in terms of likelihood of failure. Multinet is also currently experiencing leak and gas ingress issues associated with Large Diameter mains within the area bounded by the proposed Kew LP to HP upgrade. As noted in further detail in section 3.3.3, these issues include gas ingress to a hotel basement which is a current unresolved issue, and ongoing gas ingress issues into sewers in the area. The Kew project will resolve these issues and is a component of an interconnected program

of LP to HP replacement projects that assist in eliminating these large diameter assets. Appendix 3-2 provides further information on the Large Diameter Medium Pressure assets that will be removed as part of this project. The AER has removed the Kew project from Multinet's proposed program. It is Multinet's view that the removal of this project is not appropriate. Multinet consider this project to be prudent and efficient, as its completion is an essential requirement to ensure that the benefits of the interconnected projects in the program are achieved. It should therefore remain in the program.

The inclusion of the Kew project above requires the inclusion of the Whitehorse Road to Kilby Road Grid main and the Balwyn Road Grid Main.

The Greythorn Road and Balwyn Road grid mains projects are North to South grid mains assisting to interconnect the existing 125 mm grid main which runs from Kilby Rd, Kew East to the one-way valve near Doncaster Rd, Balwyn Nth. These grid mains will:

- duplicate a section of main adding capacity and security;
- provide a means to distribute the gas coming from the North into the southern areas (via the one way valves situated in Doncaster Rd and Bulleen Rd); and
- avoid asset duplication and results in better capital utilisation as the Grid mains can be used to carry services and therefore avoids the need to construct 63 mm mains in these same routes.

The Whitehorse Road to Kilby Road grid main forms the backbone to support the 5B Kew East/Kew and 4B Kew projects.

On the basis of the inclusion of these projects, Multinet proposes to defer the Sandringham/Highett project as this project is of a lesser priority to the 4B Kew project and the related grid main projects.

Multinet also notes that the AER has proposed the reduction in length of the North Balwyn project from a length of 37,080 metres to 28,900 metres. Multinet's review of this project in light of the Draft Decision has concluded that it is not possible to reduce the length of this project. As noted above, this project along with the remainder of the projects in the Kew, Balwyn and Balwyn North region are interdependent and form the basis of a program to remove a network of large diameter cast iron low pressure and medium pressure mains in this area. Reducing the length of this project does not provide Multinet with the necessary immediate ability to abandon problematic large diameter mains within the project area.

Appendix 3-3 depicts the area in which Multinet's planned renewals work (through LP to HP replacement) enables the abandonment and downsizing of substantive problematic LP and MP Large Diameter mains. Appendix 3-3.-2 also shows the Low Pressure Large Diameter mains that are located in the project areas.

Overall Multinet's proposed program provides for the replacement of 274 km, compared with the AER's proposal of 240 km. Multinet is of the view that its program represents an efficient level of expenditure to manage safety and reliability issues in the near term, on the basis that a cost pass through mechanism is available should Multinet need to undertake additional replacement work.

Multinet considers that it is not appropriate to set a pass through mechanism for the additional 34 km that Multinet is seeking to include in the program, as the revised program incorporates discrete projects with inter-linkages which will enable effective management of reliability and safety issues

throughout the five year period. The cost pass through mechanism is appropriate (subject to the comments set out below) for additional projects outside the 274 km program proposed by Multinet.

3.3.2.2 The unit rates proposed by the AER should be amended

The AER has indicated that it expects that Multinet will prioritise the projects with the lowest unit rates within the approved work program first. For the proposed program of work this is not the case. Multinet has prioritised projects in the program based on capacity and risk grounds which, in some cases, necessitates high unit cost projects to be undertaken ahead of lower unit cost projects. A number of the prioritised projects are in more difficult areas, and this results in these projects having higher unit costs.

Multinet does not accept the proposed unit rate of $175 per metre. Multinet understands that the AER has arrived at the proposed average unit rate by reducing Multinet's proposed average unit rate by approximately 19.3 per cent. This reflects the AER's proposed reduction in direct cost overheads, allowing 10 per cent in direct cost overheads to remain.

Multinet believes this reduction is not appropriate as the AER has misunderstood the build-up of the proposed direct cost overhead.

Multinet has provided further information to explain the direct cost overhead component in Appendix 3.11 of this submission. The average unit rate should be increased to $214 per metre based on the mix of projects described in Appendix 3-5.

3.3.2.3 The cost pass through mechanism should be amended

The cost pass through mechanism proposed by the AER only allows Multinet to apply for a pass through mechanism at the completion of the forthcoming access arrangement period. Multinet would therefore have to fund capital expenditure for any over-expenditure prior to the end of the period.

Multinet considers that an annual pass through mechanism should be put in place. The mechanism could work as follows:

- An annual target of 55 km would be established (274 km / 5 years = 55 km per annum).
- Any forecast expenditure proposed above the annual 55 km target would be applied for as a cost pass through in that year or the following year.
- If, for instance in year 1, Multinet has replaced, say, 40 km then the pass through threshold would be 70 km in year 2 being the 55 km annual target plus the difference between the annual target and the actual amount (40 km) replaced in year 1.

3.3.3 Multinet response: Large diameter cast iron pipe replacement

In response to the Draft Decision on Multinet's proposed large diameter cast iron replacement expenditure, Multinet would like to provide further information that substantiates the need for the program.

In Appendix D-6 of our original submission (Large Diameter Cast Iron Mains Replacement Strategy) of its AAI, Multinet described a number of drivers of risk associated with these assets. Appendix D-6 of our original submission highlighted that traffic loading could potentially lead to pipeline fracture. It

also noted the possibility of gas ingress into buildings and properties from fractured large diameter cast iron pipes.

In addition to the factors noted in Appendix D-6 of its original AAI, Multinet is of the view that the safety of its workforce and the public is also a key consideration. Multinet has experienced a number of recent large diameter cast iron mains failures where upon excavation following a leak call-out, mains have collapsed. These incidents have placed field staff at risk. In addition, these failures have resulted in substantial dust contamination of adjoining properties, and risk to the public due to gas accumulation. Multinet has also recently become aware of accumulation of gas in sewers as a result of leakage from large and small diameter mains. Often these cases are difficult to address due to the difficulty in tracing leakage sources.

The following considerations determine the prioritisation of assets for replacement:

- Size (450mm, 375mm, 300mm, 250mm, 225mm)
- Material Type (Cast Iron)
- Operating Pressure (some mains operating at 60 to 80kPa)
- Vicinity to Major Infrastructure and Places of Public gatherings
- Age and period of construction, and availability of correct stop off or clamping equipment

Further detailed information to substantiate Multinet's proposed replacement program is set out under separate subsection headings below.

3.3.3.1 Failure History

Multinet has experienced failures on a number of the mains proposed in the large diameter cast iron mains replacement program. Failures could be minor or major leaks or fractures. Fractures are considered to be a serious failure of the asset due to the size of the asset and the likely volume of gas that could escape. Mains fractures have been identified through previous studies by GTL in the UK to be of most concern in terms of the likelihood of gas ingress to properties, resulting in possible accumulation and ignition.

Repairs are becoming more difficult for Field Operators to undertake due to the pressure and volume of the escaping gas and the poor integrity of the pipe.

In recent years, Multinet has experienced the mains fractures (broken mains) listed in the table below. It is noted that Multinet proposes to replace these three mains in the large diameter replacement program.

Table 3-2: Mains fractures

Main	Diameter	Commissioned	Notification	Date of report
Summerhill Rd Unit No 27	225 mm	1/06/1927	26021721	28/02/2008
Wellington St Unit No 1	225 mm	1/06/1910	26017087	31/10/2008

Main	Diameter	Commissioned	Notification	Date of report
Riversdale Rd Unit No 27	250 mm	01/06/1890	26103544	16/09/2008

Multinet has detailed historical repair history information on the mains proposed for abandonment or replacement. This information is attached in Appendix 3-6

In addition, the following is a list of failures that have occurred on other large diameter cast iron assets. These failures have been addressed through replacement or major costly and inefficient repair:

- 225 mm LP main Springvale Rd, Springvale (EPA involvement due to gas accumulation in soil and continuous reports of gas smell)
- 225 mm MP main Highbury Road, Burwood (mains graphitisation leading to wall collapse and continuous reports of gas smell in Nearby Fire Station)
- 300 mm LP in Burwood Rd, Hawthorn (Gas ingress into Captain Snooze shop)
- 375 mm LP in Park St, South Melbourne (Gas ingress into domestic property)
- 150 mm MP main in Ingles St, Port Melbourne (Melbourne Water report of gas in Sewer)
- 300 mm MP main in Millicent Street Balwyn (mains graphitisation leading to mains failure and collapse on excavation)

Currently there is a number of Large Diameter mains leaks under investigation with solutions pending or being resolved. These include:

- 300 mm main in Myrtle St, Camberwell (Yarra Valley Water report of gas in Sewer)
- 300 mm LP main in Burwood Rd, Hawthorn (Yarra Valley Water report of gas in Sewer)
- 450 mm LP main in Richardson St/Bridport, South Melbourne (ingress into Aged care Community Centre)
- 300/375/450 mm main in Toorak Rd (Public Reported escape)
- 450 mm LP main in Pickles St (Long History of Leaks & Poor Condition, OH&S Risk)
- 300 mm LP main in Kew Junction, Kew (Currently dealing with reports of gas ingress into a hotel), gas is travelling along the route of the main.

The figure below shows fragments of failed mains.

Figure 3-2: Fragments of failed mains

	
Large diameter MP mains– 300 mm Millicent St Balwyn 24th of March 2010	Large diameter MP mains– 225mm Highbury Rd, Burwood May 2012

3.3.3.2 Mains Fracture

Although Multinet has indicated that fracture zones and mains fracture drive a requirement to replace aged cast iron mains, the impact of fracture zones and mains fracture within the large diameter population is far less apparent than in the smaller diameter (<150mm diameter) cast iron mains population. The AER has stated that it considers that the declining trend of cast iron mains fractures is representative of Multinet's successful management of leaks on these assets. The decreasing trend in mains fractures for the Multinet network has little correlation to failure trends associated with large diameter cast iron assets. The reduction in cast iron mains fractures over time has been driven by the replacement of small diameter (<150mm) cast iron mains in high fracture prone areas. The declining trend over recent years is also reflective of rainfall conditions which have reduced fractures due to softening ground conditions in reactive soils.

The AER has suggested that Multinet's good performance in the management of mains leaks demonstrates an effective level of management of these assets. Whilst Multinet agrees with this assessment, it is important to recognise the need for on-going vigilance and prudence in the management of risk. In this regard, it is noted that there is a range of key drivers for replacement of these assets, which relate to leakage and or structural failure of the asset. These drivers include:

- Risk to public of catastrophic failure or leakage
- Risk to workforce due to mains collapse on excavation
- Risk to other authority personnel and assets due to mains collapse whilst working in the vicinity
- Damage to property, as evidenced by previous failures resulting in mains and soil dust contamination of homes due to mains collapse
- Difficulties in controlling the escape, due to gas pressures and the internal and external condition of the cast iron mains. Specifically:

- It is usually impossible to achieve a complete 100 per cent seal-off of gas doe to the condition of internal surfaces of the pipe.
- Porous and pot-marked external surfaces make it very difficult to gain an adequate seal with repair clamps.

- Repairs are therefore becoming more difficult to undertake by normal field procedures, due to the severity of the escape and the poor integrity of the pipe.

3.3.3.3 Locational factors

The mains proposed for replacement/abandonment are in areas where the cost associated with repair is high due to urban density, traffic management and pedestrian management needs. The replacement or abandonment of a small section of main in a high density/high risk area is not always optimal and accordingly, Multinet has scoped these projects based on a prudent approach to minimising long term maintenance costs across the historically problematic sections of the main, whilst also considering network supply constraints and longer term network configuration.

Appendix 3-7 provides an overview of the route of each project.

3.3.3.4 Risk Assessment

Multinet has undertaken risk assessments of two of its four proposed projects. This is on the basis that two of the projects are downgrade projects in which the targeted mains are to be downgraded from medium to low pressure. Multinet is of the view that the Summerhill and Riversdale Road downgrading projects are prudent and efficient given that the risk is reduced as a result of a reduction in operating pressures for these two mains. Accordingly, risk assessments have not been undertaken for these two projects.

Risk assessments have been conducted for the Aughtie Drive and Auburn Road projects. These risk assessments are attached in Appendix 3-8.

3.3.3.5 Additional supporting information

Additional supporting information has been attached in relation to recent incidents involving large diameter mains. This information includes a report of gas in sewers in the Kew area as well as reports of gas ingress to a hotel in Kew. This information is provided in Appendix 3-9

3.3.3.6 Adjustments to the program

On further review of the program and taking into account the AER's Draft Decision, Multinet has determined that a number of projects can be de-scoped or removed from the program. In particular, Multinet has determined that the Wellington Road project can be removed on the basis that the 4B Kew Low Pressure to High Pressure replacement project would proceed. This project will result in the abandonment of the Wellington Road Large Diameter Cast Iron Main.

Multinet has also reviewed the Auburn Road project and has re-scoped this project to encompass the high risk components of the project route. This has resulted in the reduction in the project to 2 kilometres of replacement. The diameter of construction is proposed to be increased to 300 mm pipe to accommodate the shortening of length and capacity considerations. For the purposes of cost estimation, Multinet has proposed the same construction unit rate as previously submitted.

3.3.3.7 Revised proposed program

Multinet's revised proposed program is a mix of asset replacement as well as asset downgrading and asset abandonment. It is summarised in the table below.

Table 3-3: Multinet's revised proposed large diameter cast iron pipe replacement program

Location	Downgrade	Abandon	Construct	Cost
Aughtie Drive	Nil	5 km	1.6 km of 180P8	2,000
Summerhill	3 km	Nil	Nil	700
Riversdale	800 m	Nil	Nil	185
Auburn Rd	Nil	2 km	2 km of 300P8	2,900
Provision for ad-hoc replacement			0.2 km	1,000
TOTAL	**3.80 km**	**7 km**	**3.8 km**	**6,785**

3.3.4 Multinet response: Low pressure designated zones (LPDZ)

In response to the AER's draft decision on Multinet's proposed LPDZ replacement expenditure, Multinet provides the information set out below to further clarify and substantiate the need for the program.

In its March 2012 AAI, Multinet proposed the large diameter mains replacement projects listed in the table below.

Table 3-4: Multinet's proposed LPDZ large diameter mains replacement program ($'000, real 2012)

Project	Volume (metres)	Unit rate ($/metre)	2013	2014	2015	2016	2017
Burke Rd	490	1,669	818	-	-	-	-
Chapel St	325	1,812	589	-	-	-	-
Elizabeth St	100	2,330	233	-	-	-	-
Balwyn Rd	500	1,536	768	-	-	-	-
Church St	95	2,305	219	-	-	-	-
Punt & Raliegh	340	1,859	632		-	-	-
St Kilda Rd	1,850	1,031	-	1,907	-	-	-
Dendy St	200	2,175	-	-	435	-	-
Richardson St	230	1,909	-	-	439	-	-
Total	**4,130**	**1,462**	**3,259**	**1,907**	**874**	**-**	**-**

Multinet also proposed the small diameter mains replacement projects listed in the table below.

Table 3-5: Multinet's proposed LPDZ small diameter mains replacement program ($'000, real 2012)

Project	Volume (metres)	Unit rate ($/metre)	2013	2014	2015	2016	2017
Lewisham North Rd PRAHRAN	429	268	115	-	-	-	-
Regent St ELSTERNWICK	434	477	207	-	-	-	-
Clarendon St ARMADALE	220	873	192	-	-	-	-
Mandeville Cr TOORAK	260	423	110	-	-	-	-
Vale St ST KILDA	410	329	135	-	-	-	-
Ruskin St ELWOOD	285	421	120	-	-	-	-
Tashinny Rd TOORAK	1,967	260	512	-	-	-	-
Newman Av CARNEGIE	2,179	436	-	951	-	-	-
The Broadway ELWOOD	160	669	-	107	-	-	-
Grandview Gr PRAHRAN	454	258	-	-	117	-	-
Charlotte Pl ST KILDA	136	662	-	-	90	-	-
Coorigil Rd CARNEGIE	155	613	-	-	95	-	-
Grey St ST KILDA	72	1,000	-	-	72	-	-
Albert St PRAHRAN	351	587	-	-	206	-	-
Princes Hwy MALVERN EAST	175	491	-	-	86	-	-
Lytton St ELWOOD	112	438	-	-	49	-	-
Princes St PRAHRAN	99	576	-	-	57	-	-
Elizabeth Cr CARNEGIE	368	476	-	-		175	-
Leslie St ST KILDA	896	321	-	-	-	288	-
Lillimur Rd ORMOND	1,005	323	-	-	-	325	-
Te Arai Av BALACLAVA	125	472	-	-	-	59	-
Acacia St ELSTERNWICK	110	491	-	-	-	54	-
Norman Av TOORAK	214	360	-	-	-	-	77
Ariadne Av MURRUMBEENA	212	439	-	-	-	-	93
Stuart St ARMADALE	393	501	-	-	-	-	197
Phillis St ST KILDA	800		-	-	-	-	-
Total	**11,221**	**400**	**1,391**	**1,058**	**772**	**901**	**367**

Multinet notes that in the Draft Decision, the AER stated that it required additional substantiation for the projects proposed by Multinet. Multinet also acknowledges that the AER expressed concerns regarding the need to replace these assets in the manner proposed, as opposed to the inclusion of the works in a staged low pressure to high pressure renewal program. In response, Multinet wishes to provide a further explanation of the reasons for the proposed program, to ensure that the AER's assessment of Multinet's proposal is fully informed.

In its March 2012 AAI, Multinet explained (in relation to the Large Diameter LPDZ and Small Diameter LPDZ programs) that the cost of LP to HP replacement in high density inner urban areas is restrictive in a number of cases. An example was cited regarding Multinet's recent experience, in which previous tender costs for an area in St. Kilda provided a unit rate of up to $550 per meter.

Multinet also explained that it is uncommon for existing High Pressure and Low Pressure assets to be in sufficiently close proximity to facilitate LP to HP renewal in many areas. In such circumstances, to deal with problematic and unreliable assets in these areas, a prudent and efficient distributor must undertake a level of maintenance or replacement to mitigate customer complaints, customer outages and safety risks that arise from leaks and breakage. Accordingly, Multinet proposed the LPDZ replacement program.

The assets proposed for replacement under the Large Diameter and Small Diameter LPDZ programs are assets that have a demonstrated track record of reliability and maintenance issues relating to water ingress and fracture.

Fracture and leakage associated with large diameter mains assets is cause for concern. As already noted in section 3.3.3, Multinet has had a number of recent occurrences of large diameter mains leakage, fractures and collapses which have led to increased safety risks to public, property and personnel. In addition, small diameter mains fracture increases the possibility of ingress of gas to properties or sewers.

Multinet's ability to replace these assets via LP to HP replacement is constrained due to the location of high pressure infrastructure in most cases. Any attempt to replace LP assets via extension of the high pressure network is likely to prove inefficient given the cost of extending the high pressure network to the area, as well as the cost of upgrading surrounding assets which are otherwise performing reliably. In addition, the areas in question are not programmed for low pressure to high pressure renewal for many years, because there are other areas of higher priority works which are programmed to be undertaken first. Deferral of replacement of the assets listed in Table 3-4 and Table 3-5 until low pressure to high pressure upgrading is economic is not a prudent strategy given these assets could be up to 150 years old by that time. Where LP to HP upgrading is economically feasible due to proximity, Multinet will undertake such an approach.

Many of the proposed projects listed in Table 3-4 and Table 3-5 are located in inner urban high density areas. The extension or construction of new high pressure assets into these areas is likely to involve comparatively high average per meter costs due to their location within high density developments and streetscapes, and the consequently high costs of reinstatement, traffic management, public disruption, construction of complex services and fitting lines, and multiple meter installations.

In view of these factors, Multinet considers that a prudent and efficient approach to dealing with customer outage and public safety issues associated with these problematic assets (should maintenance not be effective) is to replace these assets on a "like for like" basis, or through LP to HP upgrading where this is economically feasible. The replacement of assets on a "like for like" basis

does not require extension of assets from other areas, and hence the need for construction is limited to the problematic section of pipeline in question.

Multinet's preferred solution also mitigates the risk of asset failure and costly sub-optimal unplanned "like for like" replacement. In addition, it mitigates costly emergency repairs which may not necessarily prove effective or efficient due to pipe condition, unsuitable equipment, odd pipe sizing or locational conditions.

On the basis of the information set out above, Multinet considers that "like for like" replacement for the projects listed in Table 3-4 and Table 3-5 is the most prudent and efficient approach given the customer service and safety issues, and the proximity of high pressure assets.

The Draft Decision stated that Multinet has not provided specific information to show that the current practice of managing leaks is inadequate nor that there is a pressure problem currently. In response, Multinet wishes to clarify that these factors are not the dominant reasons for replacement. The main drivers of the proposed LPDZ replacement program are water ingress leading to consumer outages, and mains fracture. Existing maintenance programs are not fully effective in mitigating water ingress and are not effective at all in mitigating mains fracture.

Multinet has sought to provide additional information to the AER on the historical maintenance history for each proposed project. This information is attached in Appendix 3-10 and Appendix 3-11.

In relation to Appendix 3-10, it should be noted that there is no information available for the Punt & Raleigh project. This section of main is currently subject to leakage survey and pinpointing investigation, in light of recent reports of leakage. It is also noted that in relation to the St. Kilda Road project, Multinet proposes to replace the section of main as marked on the plan. This section of main traverses a route along which there are many high rise buildings with basements in close proximity to the main. In view of this, and given that the route runs along a major arterial road, Multinet considers that the most efficient approach in this case is to replace the entire section of main for this project.

On the basis of the information set out above and in the accompanying appendices, Multinet's revised proposal includes the LPDZ program as submitted in the company's original submission, and summarised in Table 3-4 and Table 3-5 above.

3.4 Residential connections

3.4.1 Overview of Draft Decision

The Draft Decision noted that forecasts of capital expenditure for tariff V class customer connections are derived from estimates of:

- the number of new connections for this type of customer; and
- the unit rate cost of each connection.

The number of connections is multiplied by the unit cost to estimate the capital expenditure required.

To estimate the number of new connections for the forthcoming access arrangement period, Multinet used modelling undertaken by NIEIR. The Draft Decision contended that 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[48] to the total number of connections to forecast abolishments. However, the AER contended that Multinet did not provide the AER with sufficient information to verify this ratio. Given this, the AER did not consider that Multinet's forecast of gross connections was arrived at on a reasonable basis. Instead, the AER proposed to use the 2012 gross connections number Multinet provided in response to the AER's RIN, and to apply NIEIR's growth rates for 2013–17 to derive estimates of the gross connections numbers for the forthcoming access arrangement period.

In relation to the unit cost of connections, the Draft Decision noted that Multinet stated that these were based on a recent tender process for the outsourcing of its network operations over the forthcoming access arrangement period. However, the AER was unable to reconcile the derived unit rates with the tendered unit rates. Therefore, the Draft Decision adopted a weighted average of Multinet's actual unit rates for the current period to estimate unit rates for residential and commercial connections for the forthcoming access arrangement period.

3.4.2 Multinet response

In response to the Draft Decision, Multinet provides the following further information.

3.4.2.1 Forecast Methodology

Residential connections forecasts are based on the tendered prices received during the tender process from Comdain and Zinfra. These prices are multiplied by the forecast of the number of new connections derived from the NIEIR report. Multinet notes that in relation to residential customer number forecasts, page 201 of Part 2 of the Draft Decision stated:

> "The AER considers that Multinet's proposed tariff V [domestic] customer numbers are arrived at on a reasonable basis and represent the best forecast possible in the circumstances."

Following a detailed examination of the original residential connections forecasts, this revised proposal has adopted a different mix of connections when compared to the original proposal. In broad terms connections can be considered to be simple or complex. In Multinet's original proposal the proportion of complex jobs included in the forecast was higher than the historical average. In this revised proposal Multinet has amended the mix of connections, based on its view that the mix of simple and complex connections over the forthcoming access arrangement period is likely to be consistent with that observed over the current period. As a result, the total number of forecast new connections is unchanged, however the proportion of complex connections in the total has been reduced to align it more with historical average levels. As a consequence, the total forecast of expenditure has been reduced, reflecting a lower unit rate because of the greater proportion of relatively simple connections.

[48] That is, houses and premises that are knocked down and lost to the system.

3.4.2.2 Number of Connections

The AER has reduced Multinet's forecast of residential connections by 3,026 over the 5 year period. It has done so because it says it has been unable to verify the veracity of the ratio used by NIEIR for deriving the residential gross connections.

The NIEIR report shows the following new connections for the forthcoming access arrangement period.

Table 3-6: Forecast of residential connections

Region	2013	2014	2015	2016	2017	Total
Metro	8,076	8,089	8,133	7,858	7,750	39,906
Yarra Valley	222	222	237	183	175	1,039
South Gippsland	302	303	203	203	203	1,214
Total	**8,600**	**8,613**	**8,573**	**8,243**	**8,128**	**42,157**

The AER uses NIEIR's connection growth rate calculated from the above table and applies that to information contained in RIN template 3a.

Multinet notes that the information contained in RIN template 3a contains "mixed" data. The number of physical connections shown in that template is metropolitan connections only. RIN template 3a does not include data relating to connections in the Yarra Valley and South Gippsland. Therefore the method applied by the AER to calculate the number of connections effectively assumes that no connections are made in the Yarra Valley or South Gippsland. The correct connections data to be used are contained in RIN template 20, 26 and 26a. The data in these templates is consistent with the energy volume forecast.

As already noted, the Draft Decision reduces Multinet's customer number forecast by 3,026 connections, although elsewhere in the Draft Decision[49] the AER states that it considers that Multinet's proposed tariff V [domestic] customer numbers are arrived at on a reasonable basis and represent the best forecast possible in the circumstances. The Draft Decision also accepts Multinet's energy volume forecast. The AER's draft decision to reduce Multinet's forecast number of new residential connections is in error, and should be rectified. For the purpose of this revised proposal, Multinet has adopted the forecast of residential connections set out in its original proposal (and shown in Table 3-6 above), as accepted by the AER in Attachment 9 of Part 2 of its Draft Decision.

[49] Page 201 of Part 2.

3.4.2.3 Unit Rate

The AER has approved a unit rate for residential connections of $1,572.44. This is considerably lower than the unit rate approved for SP AusNet and Envestra, despite Multinet's rate being derived from a tender competitive process.

In this regard, it is noted that page 137 of the Draft Decision states:

> "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."

It is also noted however, that the AER stated that it was unable to reconcile the derived unit rates with the tendered unit rates, and on that basis the AER did not consider that the unit rates have been forecast on a reasonable basis.

In response, Multinet advises that the forecast average unit rate is derived as follows:

- For the period from January to June 2013, the current rates specified in the OSA with JAM are used.
- For the period from July 2013 to December 2017, tendered unit rates are used, and to these rates there is added an allocation of internal staff directly attributable to the function. These internal resources are engineering and support staff directly involved in capital works, undertaking activities such as preparing business cases, planning, negotiating with customers and so on. Further details are provided in section 3.11 below.

As explained above, Multinet has revised its forecast mix of works, and this has the effect of reducing the average unit rate.

The unit rate proposed by the AER is below the rate currently paid by Multinet; it is also below the rates tendered recently. As already noted, the rate proposed by Multinet is below the rate approved by the AER as being prudent and efficient for both Envestra and SP AusNet in the current period for the purpose of establishing the opening capital base value at the start of the forthcoming access arrangement period. Attachment 3-1 provides a detailed reconciliation of Multinet's revised unit rates by category.

3.4.2.4 Revised forecast

On the basis of the information set out above, Multinet's revised forecast of residential connection capital expenditure is set out in the table below.

Table 3-7: Revised forecast of residential connection capital expenditure ($m, real , 2012)

	2013	2014	2015	2016	2017	Total
Total connections	8,600	8,613	8,573	8,243	8,128	42,157
Unit rate ($)	1,564.36	1,922.76	1,885.32	1,931.90	1,974.00	1,853.70
Total exp ($m)	**13.4**	**16.5**	**16.2**	**15.9**	**16.0**	**78.2**

3.5 Commercial/industrial connections

3.5.1 Overview of Draft Decision

The Draft Decision noted that 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. The AER accepted that this forecasting approach is consistent with rule 74(2) given the variation in the cost and frequency of the connections.

The Draft Decision also stated that the AER considers that Multinet's proposed capital expenditure is justified under rule 79(2)(c)(iii). However, the Draft Decision noted that Multinet did not provide total cost and volume data for Tariff D over 2008-12 in the RIN. Page 50 of Part 2 of the Draft Decision stated:

> "The AER requested this data from Multinet. However, Multinet provided volume but no total cost data. 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."

3.5.2 Multinet response

In response to the Draft Decision, Multinet provides the following further information.

3.5.2.1 Forecast Methodology

The forecast of commercial connections in Multinet's original proposal was prepared in the same manner as the residential connection forecast. In this revised proposal however Multinet has adopted historical average unit rates rather than tendered rates. This is because the average tendered rates include a proportionally excessive number of difficult sites in the mix of works, and this has the effect of increasing the average unit rate to a level significantly higher than the historical average. Unlike residential connections where Multinet has been able to simply adjust the mix of connections, this task is too difficult in the commercial/industrial category, because of the variation in the cost and frequency of the connections. In these circumstances, Multinet has adopted historical average unit rates.

3.5.2.2 Number of Connections

Notwithstanding the comments made by the AER on page 50 of Part 2 of the Draft Decision (cited above), it is noted that in relation to Multinet's commercial/industrial customer number forecasts, page 201 of Part 2 of the Draft Decision stated:

> "The AER considers that the forecast for Tariff D customer numbers is arrived at on a reasonable basis and represents the best forecast possible in the circumstances."

The NIEIR report - which the AER has accepted as providing best forecast possible forecasts of customer numbers and gas consumption - shows the following new connections for the forthcoming access arrangement period.

Table 3-8: NIEIR forecast of commercial connections

Region	2013	2014	2015	2016	2017	Total
Metro	195	194	193	193	193	968
Yarra Valley	1	1	1	1	1	5
South Gippsland	1	1	1	2	1	6
Total	**197**	**196**	**195**	**196**	**195**	**979**

For the purpose of this revised proposal, Multinet has adopted the NIEIR forecasts.

3.5.2.3 Unit Rate

As already noted, Multinet has adopted the historical unit rate for commercial connections in this revised proposal. Given that in this category there is a large variance between simple and complex jobs the most reasonable method of forecasting in the circumstances is the application of historical unit rates.

3.5.2.4 Revised forecast

On the basis of the information set out above, Multinet's revised forecast of commercial/industrial connection capital expenditure is set out in the table below.

Table 3-9: Revised forecast of commercial connection capital expenditure ($m, real , 2012)

	2013	2014	2015	2016	2017	Total
Total connections	197	196	195	196	195	979
Unit rate ($)	$3,656.56	$4,707.26	$4,403.84	$4,782.90	$4,565.24	$4,422.25
Total	**0.7**	**0.9**	**0.9**	**0.9**	**0.9**	**4.3**

3.6 Meters

3.6.1 Overview of Draft Decision

The Draft Decision stated that Multinet's forecast volumes of meter replacement appear to be commensurate with its historical replacement rate. However, the AER considered that Multinet did not provide sufficient evidence for the AER to establish the reasonableness of Multinet's proposed unit rates. Accordingly, the AER considered that that an average of Multinet's historical expenditure

over the current access arrangement period (escalated to 2012 dollars) would be the best forecast available in the circumstances.

3.6.2 Multinet response

Multinet acknowledges the information provided to the AER in the submission and in response to AER requests for information may have lacked clarity. For completeness, the assumptions underpinning Multinet's meter replacement forecasts are re-stated below. It is noted that these assumptions have been accepted by the AER in the Draft Decision:

- Gallus 2000 meters are removed after 15 years service.
- Meters currently extended 5 years at next test are extended for 3 years then 1 year, and then fail and are removed the following year.
- Meters currently extended 3 years at next test are extended 1 year and then fail and are removed the following year.
- Meters planned for future testing are extended beyond the forthcoming access arrangement period.
- 2013 forecasts are based on actual sample test results.
- Meters above $10m^3/h$ are not included.
- U6 meters are removed due to manufacturing fault and are not repairable.

Meter family removal numbers are set out in the table below.

Table 3-10: Meter family removals, by year

Family	2013	2014	2015	2016	2017
1997 GAL2000	8,399				
1998 GAL2000		4,709			
2005 U6	9,736				
1985 EML602			10,332		
1988 EML602			25,365		
1991 EML602			17,291		
1992 EML602				24,290	
1993 EML602		22,980			
1994 EML602			17,577		
1991 EML602R					12,909
1992 EML602R		12,377			
1995 EML602R			1,034		

Family	2013	2014	2015	2016	2017
1996 EML602R					3,499
1987 P&C					2,352
1996 EML610					14,274
TOTAL	**18,135**	**40,066**	**71,589**	**24,290**	**33,034**

Although the data in the table above has been accepted by the AER, in manipulating the information provided by Multinet, the AER has made several errors. As well as not properly accounting for unrepairable meter families, refurbishment of test meters and faults, *Table A.15 AER draft decision on Multinet's meter replacement volumes* assumes 80 per cent of meter families can be refurbished. Multinet's experience is that 90 per cent of repairable families can be refurbished.

The AER's *Table A.15 AER draft decision on Multinet's meter replacement volumes* is reproduced below:

	2013	2014	2015	2016	2017
Test Meters	1,300	1,300	1,452	1,604	1,604
End of Life	18,135	40,066	71,589	24,290	33,034
Faults	2,373	2,376	2,380	2,384	2,388
Refurbished	-	28,221	57,271	19,432	26,427
New connections	5,090	4,790	5,290	5,790	7,390
Purchased meters	26,898	20,311	23,440	14,636	17,989

Using the same base replacement numbers and assumptions accepted by the AER, and correcting the errors, the correct meter replacement numbers are as shown in the table below.

Table 3-11: Multinet's meter program

	2013	2014	2015	2016	2017	Total
TE Families to be removed	18,135	40,066	71,589	24,290	33,034	187,114
Less TE Families non repairable	18,135	4,709	-	-	2,352	25,196
Equals TE Families Repairable	-	35,357	71,589	24,290	30,682	161,918
FLE sample	1,300	1,300	1,452	1,604	1,604	7,260
Defective	2,373	2,376	2,380	2,384	2,388	11,901

	2013	2014	2015	2016	2017	Total
Total repairable meters	3,673	39,033	75,421	28,278	34,674	181,079
Total meters removed	**21,808**	**43,742**	**75,421**	**28,278**	**37,026**	**206,275**

Total new connections (as set out in the NIEIR report) and extracted from the tables above are summarised as follows.

Table 3-12: New connections by meter type

	2013	2014	2015	2016	2017	Total
Residential	8,600	8,613	8,573	8,243	8,128	42,157
Commercial	197	196	195	196	195	979
Total	**8,797**	**8,809**	**8,768**	**8,439**	**8,323**	**43,136**
Broken down by meter type						
6m3/h	6,727	6,739	6,698	6,369	6,253	32,786
10m3/h	1,500	1,500	1,500	1,500	1,500	7,500
AL425	300	300	300	300	300	1,500
AL800	70	70	70	70	70	350
AL1000	200	200	200	200	200	1,000
Total	**8,797**	**8,809**	**8,768**	**8,439**	**8,323**	**43,136**

Based on the information provided above and in Appendix 3-1, Multinet's revised forecast for meter purchases is set out in the table below

Table 3-13: Meter purchase forecast for the forthcoming access arrangement period

	2013	2014	2015	2016	2017	Total
Residential	25,229	15,351	14,240	9,197	12,072	76,090
Commercial	72	83	30	41	32	257
Total	**25,301**	**15,434**	**14,270**	**9,237**	**12,104**	**76,347**

3.7 Augmentation

3.7.1 Overview of Draft Decision

The AER considered that a number of augmentation projects proposed by Multinet are necessary, in light of forecast connections growth, to address an expected decline in gas pressure within constrained network areas. However, the AER did not approve Multinet's forecast input costs for these projects. The AER revised the direct overhead rate down to the industry standard rate.

In addition, the Draft Decision did not accept Multinet's proposed augmentation projects where either:

- the modelled pressure does not fall below the regulated minimum (in which case the AER considered that the augmentation is not necessary); or
- the solution does not, in the AER's view, address the capacity issue.

The Draft Decision stated that the AER approves augmentation capital expenditure of $7.4 million ($2012, direct costs) but does not approve augmentation capital expenditure of $27.6 million ($2012, direct costs).

3.7.2 Multinet response

Augmentation capital is driven by peak load growth which is relatively consistent within Multinet's territory. Expenditure from year to year is variable depending on the timing of particular projects; however over the medium term the average level of expenditure tends to remain relatively consistent. To expect (as the Draft Decision does) that Multinet can move from a previous level of augmentation investment of $32 million over 5 years to $7.4 million whilst sustaining similar load growth is simply not credible.

If the Draft Decision is implemented, and Multinet's augmentation investment is as a consequence constrained to that low level, then the AER can expect that very significant capacity-related supply interruptions will be experienced over a wide range of Multinet's territory in the next access arrangement period and potentially for several years into the following period.

The AER's reasons for rejecting the vast majority of Multinet's proposed augmentation projects seem to be based on the AER consultant's narrow view that each project has to be considered on an individual basis. Under this mistaken view, interrelationships with other projects, supplied and supplying networks, and adjacent network impacts can be ignored. Although the impact of these factors is complex and difficult to analyse, completely discounting them when assessing the level of augmentation investment required will have drastic adverse effects on the reliability of the Multinet network.

Many questions were received from the AER's consultant enquiring as to what "business cases" had been approved for augmentation projects. It should be noted that forecasting augmentation projects with accuracy is increasingly difficult as the forecast period extends beyond the next two years. Too many variables exist to be able to justify forecast projects in year 5 with more than a low to moderate degree of certainty. Based on the AER's approach in the Draft Decision this means that a forecast of zero is the appropriate forecast where a moderate degree of uncertainty exists or projects cannot be justified to "business case" standards. Although we acknowledge an increasing degree of uncertainty as time proceeds within the forecast period around specific projects, this is not to say that no augmentation will be required in the later years of the forecast period. Even though uncertainty exists and is acknowledged for specific projects we know that augmentation will be required in the latter years. Hence a forecast of zero cannot be said to be the best forecast in the circumstances.

Multinet has reviewed its original augmentation capital expenditure forecast in light of the report provided to the AER by the AER's consultants, Zincara. Multinet is confident that the augmentation capital expenditure forecast it submitted in its original proposal:

- has been arrived at on a reasonable basis;
- represents the best forecast or estimate possible in the circumstances; and
- is consistent with the capital expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

Multinet's revised expenditure forecast therefore includes the augmentation capital expenditure forecast as submitted in its original proposal.

Further information to substantiate Multinet's response to the Draft Decision is provided in Appendix 3-12. That Appendix provides an overview of Multinet's planning criteria and its approach to augmentation planning. It also presents further detailed information, in response to the Zincara report, in relation to the various projects omitted by Zincara from its recommended augmentation capital expenditure allowance.

3.8 IT capital expenditure

3.8.1 Overview of Draft Decision

The AER's Draft Decision approved a total of $35.6 million ($2012) of Multinet's proposed IT capital expenditure of $46.9 million ($2012) for the forthcoming access arrangement period.

The Draft Decision stated that the AER engaged Nous Group to assess the prudency and efficiency of Multinet's IT programs. Based on that advice, the AER's Draft Decision:

- reduced the proposed risk and contingency allowance on a number of IT projects; and
- reduced the forecast cost of the GIS Strategy and GE Smallworld Upgrade, and Data Warehouse Enhancement projects.

The Nous Group also reviewed Multinet's forecast of 2012 expenditure and determined that the efficient level for Multinet's IT capital expenditure in 2012 was $37.3 million. This figure is the sum of:

- Multinet's cost forecasts for the SAP CMS and SAP ERP projects from the IT Capital Plan, including contingency allowances; and
- $9.7 million in additional expenditure for the SAP ERP project specified in Multinet's response to AER query 41.

3.8.2 Multinet response

Multinet has revised its forecast of 2012 expenditure in response to the Draft Decision. Details of these revisions are set out below.

3.8.2.1 Reforecast of 2012 expenditure

Multinet has revised its 2012 expenditure forecast to reflect adjustments to the timing of expenditure on SAP projects in 2012 and 2013. It is noted that these adjustments involve deferral of expenditure from 2012 to 2013, so there has been a corresponding decrease in Multinet's proposed opening RAB. The SAP ERP project has been delayed due to delays in the approval process associated with finalising the scope of the project. The scope is now finalised, the Board has approved the project and qualified resources are engaged to deliver the project in time for the 1 July 2013 transition. The Nous Group's report to the AER reviewed this IT expenditure, and concluded that it is compliant with the Rules. On this basis, the AER should include the costs of this project in the IT capital expenditure forecast for the forthcoming access arrangement period.

3.8.2.2 Change Requests

Change requests are minor works and projects required to respond to market and regulatory changes. They include associated business process changes, reporting, analytical functionality and/or integration into existing IT solutions. This work also addresses any performance shortcomings or additional infrastructure capacity required to support and execute minor works and projects.

Multinet has adopted a forecast for the forthcoming access arrangement period of $3.4 million in total in relation to change request expenditure. This forecast is consistent with historical trends and the expected level of work required to maintain and improve operational systems.

3.8.2.3 Data Warehousing and Define Future Data Architecture and Information Model

At the time of the development of the IT Asset Management Plan, estimates of data warehousing costs were based on an assumption that the new SAP systems (SAP CMS and SAP ERP) would lead into an SAP-oriented data warehousing solution for all new business intelligence and analytics-oriented business requirements. Since that time the strategy has been redeveloped so that the current Cognos footprint would be retained. This approach is intended to enable Multinet to drive further value out of the current solution (and associated investments), rather than undertaking a full replacement. In Multinet's view this will provide the most prudent and efficient option for the forthcoming access arrangement period.

The following appendices provide high level SAP estimates on the solution options:

- Appendix 3-13, titled BI Costs for AER.xls
- Appendix 3-14, titled *HANA & BO Rapid Marts Proposal for United Energy.pdf;* and
- Appendix 3-15, titled *United Energy – SAP proposal to deploy PM reporting.pdf.*

A spread sheet (in Appendix 3-13) titled *BI costs for AER.xls* contains Multinet's high-level estimates for a complete project implementing proposed SAP solutions. The options considered by Multinet are set out in this spread sheet. Multinet has selected Option 1, which is estimated to cost $2.96 million, as it is a more efficient option compared to Option 2, which has an estimated cost of $4.89 million.

Multinet's revised expenditure forecast includes the cost of Option 1 ($2.96 million for the whole of the forthcoming access arrangement period) in relation to the Data Warehousing and Define Future Data Architecture and Information Model project. This project represents the most efficient option for meeting business needs, and its forecast cost is consistent with the capital expenditure that would be

incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

3.8.2.4 Capitalisable operating expenditure and Internal Multinet labour

Multinet's IT team is a small team that shares its resources with United Energy. Consequently all capital projects are largely outsourced for implementation. Although all projects are outsourced, Multinet staff actively manage the projects and relevant contractors to ensure efficient and timely delivery of all projects. Multinet will also engage specialist project managers (separately from the outsourced implementation partners) from time to time in order to project manage particular pieces of work.

The activities undertaken by Multinet's in-house staff are all related to the efficient delivery of capital projects. It is both prudent and efficient for Multinet to actively manage projects, rather than simply outsourcing entire projects. Multinet's IT capital expenditure forecast is comprised of the direct costs of outsourced projects, plus internal project management included as a separate (total) activity.

The capitalised internal costs reflects the total labour costs (of contractors, consultants and staff) involved in managing the delivery of IT capital projects. Activities undertaken by these resources include architecture, solution outline and governance. These activities are not provided by the projects team and PMO dedicated to the execution of projects, but they are required for the overall planning and delivery of the capital project portfolio. Also, these activities are typically undertaken by the IT asset owners, rather than service providers.

Appendix 3-1 contains a spread sheet titled *Driver-IT,* which sets out Multinet's forecast capitalised operating expenditure and internal labour. These costs are a legitimate component of the total cost of delivering IT capital projects. Multinet's forecast of the costs of these activities is consistent with the expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

3.9 SCADA

3.9.1 Overview of Draft Decision

Multinet proposed SCADA capital expenditure of $7.4 million ($2012 direct cost) for the forthcoming access arrangement period. The Draft Decision approved a total of $1.0 million.

The Draft Decision rejected Multinet's forecast of SCADA capital expenditure because the AER considered that:

- 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; and
- 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.

3.9.2 Multinet response

Multinet's responses in relation to each category of proposed SCADA capital expenditure are set out separately below.

3.9.2.1 Kingfisher RTU Replacement

Multinet proposed a 50 site replacement program over the forthcoming access arrangement period. This was on the basis that the current population of Kingfisher Series 2 RTUs have a sub population of sites which are reaching or have exceeded their recommended asset life as indicated by the equipment manufacturer. Although Multinet has been unable to provide the AER with failure history associated with these assets, it is Multinet's judgement that the replacement of these assets over time is prudent.

Multinet remains of the view that failure of these assets may not always be detected. This is counter to the AER's view that Multinet will be aware of any failures through control room monitoring in all instances.

Multinet accepts that undetected failure of these assets or their sub components is a rare occurrence, and hence the associated risk of such events is low. On this basis, Multinet accepts the AER's view that a reactive replacement program could be implemented to manage the replacement of aged assets for the forthcoming access arrangement period.

Multinet's revised capital expenditure forecast therefore includes an allowance for the ad hoc replacement of 2 sites per year due to failure, at a cost of $25,000 per site.

3.9.2.2 Additional RTUs

Multinet proposed the installation of 14 new RTU's over the forthcoming access arrangement period. These consisted of the following sites:

Upgrade causing fringe location changes:

- Moorabbin HP 1 (2013) - Post grid completion and potential Highett relocations works
- Moorabbin HP 2 (2016) - Post grid completion and potential Highett relocations works
- South Melb. HP/Southbank HP A. (2016) - Post large scale redevelopment plans promoted by State Gov't. in "Port Melb environs" (DETAILS CONFIDENTIAL) Multinet is of the view that it is prudent to undertake the installation of these fringe RTU's within the South Gippsland townships New Load causing additional fringe locations:
- Dandenong HP 1 (2015) - Multiple applications rendering it unclear where this will occur at this time
- Dandenong HP 2 (2017) - Multiple applications rendering it unclear where this will occur at this time
- Sth Gipps Korumburra (2014) - Identified as prudent post the "Burra Foods" connection impact was quantified
- South Melb. HP/Southbank HP B. (2018) - Post large scale redevelopment plans promoted by State Gov't. in "Port Melb environs" (DETAILS CONFIDENTIAL)

Network reconfiguration causing additional fringe locations:

- Oakleigh HP - Post Balwyn Upgrade and Grid - "Balwyn area" (2014)
- Doncaster HP - Post Balwyn Upgrade and Grid- "Doncaster Pettys Ln PRS area" (2017)
- Sth Melb HP - Upon potential Lorimer St PRS Decomm (2018)
- Ringwood HP - Upon Vermont-Ringwood HP reinforcement and reconfiguration completion (2013)

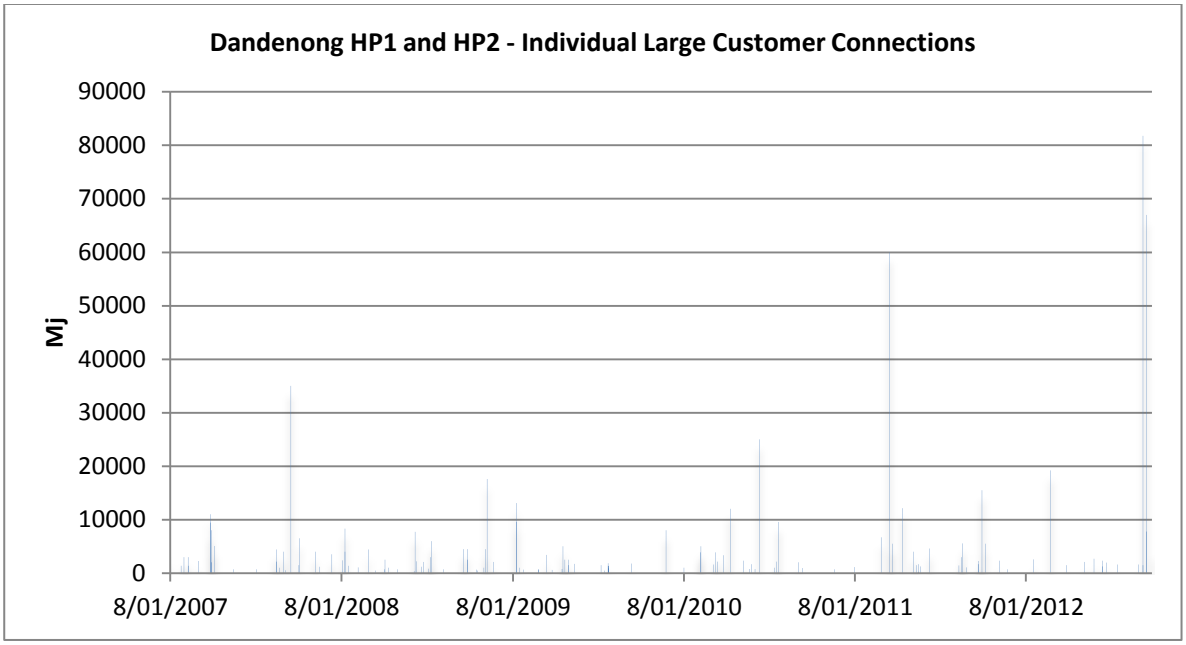
Incremental load growth causing fringe locations:

- Sth Gipps- Wonthaggi (2013)
- Sth Gipps- Inverloch (2015)
- Sth Gipps- Leongatha (Considered prior to Murray Goulburn application that may soon be chargeable) (2014)

Multinet identified these locations based on network analysis, assessment of developments and using the best available information at hand.

The AER indicated that seven of the 14 proposed sites were not justified due to either changing loads not expected until 2018 (South Melbourne HP, Southbank HP) or because the AER did not see sufficient evidence of demand changes (South Gippsland projects and Dandenong HP1 and HP2).

Multinet is of the view that there are material demand changes in the Dandenong area which justify the requirement for additional SCADA fringe RTU locations. Multinet connected approximately 681,624 MJ of load in the Dandenong post code area during the current access arrangement period, of which 543,746 MJ was supplied to 43 large customers. This has resulted in a small proportion of large individual connected loads which have had a material impact on the fringes of the Dandenong HP1 and Dandenong HP2 networks. These additional loads have resulted in the formation of new fringes within the Dandenong HP1 and HP2 networks. Further details of the large individual connected loads during the current regulatory period can be seen below in the attached chart.



Given the above information, Multinet proposes 2 additional fringe RTU locations within the Dandenong HP1 and HP 2 networks to accommodate these fringe changes.

The South Gippsland proposed fringe RTU locations are deemed necessary to deal with inadequate fringe monitoring capabilities within the current South Gippsland networks.

The fringe RTU proposed for Wonthaggi in 2013 is required in order to ensure suitable fringe monitoring capabilities within the Wonthaggi area. The existing fringe for Wonthaggi is located at the current Wonthaggi city gate site (currently a proposed city gate). This is undesirable as it is the entry point to the Wonthaggi network and does not accurately represent the fringe of the Wonthaggi network. Forecast load growth in the Wonthaggi network also indicates that the lowest distribution system minimum network pressure could occur in Inverloch at the time of the proposed installation of the fringe RTU (2013). Fringe monitoring of this network would be essential in order to avoid SCADA operations based outages.

Similarly the fringe RTU proposed for Inverloch in 2015 is required in order to ensure suitable fringe monitoring capabilities within the Inverloch area. Forecast load growth in the Inverloch network also indicates that the lowest distribution system minimum network pressure could occur in Inverloch at the time of the proposed installation of the fringe RTU (2015). Network monitoring capability in the Inverloch network is currently non-existent.

Similarly, the fringe RTU proposed for Leongatha in 2014 is required in order to ensure suitable fringe monitoring capabilities within the Leongatha area. Forecast load growth in the Leongatha network also indicates that the lowest distribution system minimum network pressure could occur in Leongatha at the time of the proposed installation of the fringe RTU (2014). Network monitoring capability in the Leongatha network is currently non-existent.

Multinet must undertake the installation of these fringe RTUs within the South Gippsland townships in order to:

- ensure adequate network fringe monitoring capabilities exist;
- maintain compliance with distribution minimum system pressures in accordance with the Gas Distribution System Code; and
- conform with prudency requirements in line with AS 4645 section 4.7 Network Control.

Multinet considers that the information set out in this response demonstrates that it is prudent and efficient to undertake the installation of the proposed fringe RTUs within the South Gippsland townships.

The South Melbourne HP fringe RTU location proposal has arisen as a result of recent State Government announcements on the rezoning of current industrial land in the Port Melbourne, Southbank and South Melbourne area. Multinet expects to see a level of growth activity in this area which will be predominantly Tariff V connection growth and thus non chargeable. Forecast load growth in the South Melbourne/Southbank HP networks also indicates that the lowest distribution system minimum network pressure could occur at the time of the proposed installation of the fringe RTU (2018). Multinet is of the view that it is prudent to account for the likely requirement for a fringe RTU for this network prior to or around 2018.

3.9.2.3 Radio Upgrade

Multinet acknowledges that the AER has accepted Multinet's proposal for the upgrade of 62 legacy sites from D series to E series radios at a cost of $0.23 million over the forthcoming access arrangement period.

3.9.2.4 Upgrade Daily Metered Flow Computers to Monitor Network Pressure

Multinet notes that the AER has not accepted the company's proposal to upgrade 40 daily metered sites at a cost of $0.2 million over the forthcoming access arrangement period. Multinet considers that it is beneficial to convert sites to capture additional data, in order to gain a better understanding of network operating conditions. However at this point in time Multinet is unable to provide measurable and tangible benefit justification to the AER to support this proposed program.

In order to more accurately assess the benefits of this proposed program Multinet's revised capital expenditure forecast includes the cost of undertaking a trial of 5 sites (1 site per annum) over the forthcoming access arrangement period, to assess and capture measurable benefits to support further justification for a wider program.

3.9.2.5 Electronic Gas Detectors

Multinet notes that the AER has not accepted the proposed installation of three SCADA monitored electronic gas detectors at a cost of $0.2 million per annum over the forthcoming access arrangement period.

Multinet is of the view that the installation of these devices at large pressure reduction stations enables monitoring of the site to ensure gas containment. These sites consist of numerous flanged

connections, valves, regulators and controllers which entail a higher probability of leak occurrence at substantially higher pressures than upstream and downstream pipework. Existing monitoring capability relies heavily on public reports and on less frequent maintenance visits to these sites. The current approach is reactive and results in the risk being already present prior to Multinet receiving notification. The use of gas detectors enables advanced notification of a leak for sites that are in close proximity to residential or commercial premises. This provides improved response times, and the scope for early mitigation of risk.

At present Multinet is unable to quantify the benefits associated with the installation of electronic gas detectors, however Multinet is of the view that this expenditure is prudent for sites where the risk of gas escape could result in ingress to properties. Multinet's revised expenditure forecasts include the cost of installing monitored electronic gas detectors at a cost of $0.2 million per annum over the forthcoming access arrangement period.

3.9.2.6 Upgrade of Monitor Only Sites to Control

Multinet notes that the AER has not accepted the company's proposal to upgrade to control of monitored only SCADA regulator sites at a cost of $0.2 million per annum over the forthcoming access arrangement period.

Multinet is of the view that there is benefit in upgrading selected sites to control. Upgrading sites to control allows Multinet to control downstream network pressures to an optimal operating pressure, thus reducing gas network losses (UAFG). The ability to quantify UAFG savings as a result of an individual upgrade is difficult to assess due to the substantial number of variables that are attributable to UAFG.

Multinet has approximately 37 SCADA monitored pressure reduction stations. Multinet has proposed that 24 of these sites would benefit from an upgrade to solenoid step control.

Multinet considers that this expenditure is prudent and efficient in light of the potential for it to assist in the mitigation of network losses (UAFG). On this basis, the proposed expenditure is included in Multinet's revised forecast.

3.10 Other capital expenditure

3.10.1 Overview of Draft Decision

The Draft Decision noted that Multinet proposed a number of other capital expenditure projects. The AER did not approve a number of these because it considered that the expenditure forecast provided by Multinet did not represent the best estimate possible in the circumstances. Other projects were not accepted by the Draft Decision because the AER considered that Multinet did not demonstrate that these were necessary projects. In total, the Draft Decision accepted $32.4 million of Multinet's proposed $46.1 million of capital expenditure for other projects.

3.10.2 Multinet response

3.10.2.1 Environmental Noise Improvement

Multinet proposed an annual allowance of $40,000 over the forthcoming access arrangement period. Multinet provided historical expenditure details to the AER in response to information request 17, which showed an expenditure profile of $6,400 in 2007 and $42,000 in 2008 on noise improvement projects.

The AER has made an allowance of $10,000 per annum based on the information provided in information request 17. Multinet accepts the AER's proposed expenditure forecast.

3.10.2.2 Equipment Enclosures

Multinet proposed expenditure of $160,000 per annum for the forthcoming access arrangement period for equipment enclosures. Based on information provided to the AER in response to information request 17 the AER has proposed an allowance of $89,000 per annum.

Multinet has now undertaken further validation of the information it provided in response to the AER's information request 17. After completing that validation exercise, Multinet has determined that it expended a total of $579,000 over the current regulatory period in relation to equipment enclosure works. This equates to an average annual expenditure of $116,000. Multinet has therefore adopted a revised forecast of $116,000 per annum for equipment enclosures.

3.10.2.3 Corrosion Protection

Multinet proposed an annual allowance of $185,000 over the forthcoming access arrangement period in relation to its Corrosion Protection strategy.

The Draft Decision accepted Multinet's proposal, so Multinet has adopted a corrosion protection expenditure forecast of $185,000 per annum in this revised proposal.

3.10.2.4 Hydraulic Regulator Replacement, District Regulator Replacement, and Rectification for Pigging

Multinet understands that the AER has arrived at the Draft Decision's proposed expenditure allowance for these activities by reducing the overheads allocated to this capital expenditure category.

Multinet considers that this reduction is not appropriate as the AER has misunderstood the build-up of Multinet's direct cost overhead, and Multinet did not provide sufficient information to substantiate the overhead.

Multinet has provided further explanation and substantiation of the direct cost overhead component in section 3.3.2.2 of this submission. On the basis of that explanation, Multinet considers that the overhead allocation is consistent with the cost that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services. Therefore, for the purpose of this revised proposal, Multinet has adopted its original forecast of expenditure for hydraulic regulator replacement, district regulator replacement, and rectification for pigging set out in its original proposal.

3.10.2.5 Telemetry for CPS

Multinet accepts the Draft Decision with regard to expenditure relating to telemetry for CPS.

3.10.2.6 Syphon Removal

Multinet's AAI set out a forecast of $7.61 million in direct costs over the forthcoming access arrangement period. This reflects an average cost of approximately $80,000 per syphon for 108 syphons.

Multinet originally proposed the removal of all 108 syphons on de-licensed pipelines T 02, T 03 and T 17 which were originally installed as a means of removing liquid residue from manufactured gas. Multinet considers that this provides an efficient means of enabling Multinet to increase the operating pressure in these pipelines whilst ensuring asset integrity.

The up-rating of these pipelines is proposed in order to provide the least cost technically acceptable option for meeting current and future network demands within a number of High Pressure networks supplied by these pipelines. Alternative network augmentation options provide for significantly higher costs as a result of the need to upgrade a number of downstream pressure reduction facilities supplied from the pipelines.

Multinet considers that a prudent approach in these circumstances would entail the removal of all syphons prior to these pipelines being up-rated, as this will ensure the long term integrity of the pipelines given the higher operating pressures. Multinet is also of the view that to prove the integrity of these pipelines and to obtain the regulatory endorsement required to up-rate them, there will be a need to expose and likely remove a majority if not all of the noted syphons.

Previous assessments of a number of syphons along the pipeline route - notably at Leigh Street Bentleigh, and Hammond Road Dandenong - have shown that the condition of these syphons is poor.

Syphons in the Hammond Rd Dandenong location were exposed following a recent leak detection, when the leak was repaired and the syphon was noted to be in poor condition. The Lee St Bentleigh location was exposed to conduct an investigation on the syphon type. The syphon and surrounding pipe were exposed and assessed. Wall thickness tests were not conducted on the main as it was deemed unsafe to remove the existing coating in the vicinity of the syphon due to the syphon's poor condition. Appendix 3-16 provides photographs of examples of syphons that have been exposed.

In the event that the AER does not approve this expenditure proposal, Multinet proposes an alternative approach involving the targeted excavation and exposure of syphons on an annual basis

for the purpose of assessment and removal. This approach would inevitably delay Multinet's ability to up-rate the noted pipelines, resulting in more costly downstream augmentation to meet current and future demand requirements.

On this basis, Multinet's revised proposal reflects an allowance for the replacement of up to 10 syphons per year at a cost of $80,000 per site, and resulting in a total cost of $4 million for the forthcoming access arrangement period.

3.10.2.7 Large Consumer Regulators

Multinet proposed to rationalise the regulator models for large consumer regulators. The AER did not consider this to be prudent. In response, Multinet wishes to provide further justification for the expenditure proposed.

The proposed expenditure relates to a number of regulator families and asset categories, which are described under separate subheadings below. An explanation of the requirement for the proposed expenditure in each category is also provided.

Grove Model 80 Regulators

Within Multinet's distribution system there are four, 100 mm diameter Grove regulators with the 201-04-422-314 tube installed. These tubes are no longer available due to mould problems. Accordingly, Multinet proposes to replace these regulators with suitable alternatives.

Rockwell 441 VPC Regulator

This series of regulators is no longer supported by the manufacturer, as complete spare parts kits are no longer available. Replacement of this family of regulators with Norval regulators is underway and is programmed to continue into the forthcoming access arrangement period.

Jeavons J125 Regulator

The Jeavons J125 regulator was used as an alternative to the Ø25-mm Reliance 1843 series regulator. It has been found that when fitted with a large orifice, under fault conditions the internal relief of this regulator does not prevent possible over pressurisation of the customer's fitting line. In order to rectify this issue Multinet intends to replace the Jeavons J125 regulator with a suitable Reliance 1800 series regulator. This will mitigate the risk of over-pressure, and enable rationalisation of spare parts.

Slam Shut Panels

A number of Slam Shut Panels were constructed in a way that prevents control line insulation unions from adequately insulating the equipment from induced and stray currents. Rectification works for the sites not yet rectified will be undertaken during annual refurbishment works throughout the forthcoming access arrangement period.

Multinet has forecast expenditure of $400,000 over the forthcoming access arrangement period to undertake these works.

Above Ground Supply Regulators: Toorak Road Tooronga

Multinet explained in its AAI that it is planning to underground this site. The Draft Decision considered that the proposed expenditure does not meet the requirements of the Rules. The Draft Decision noted that the developer of the site has confined development to accommodate the supply regulator's present location, and Multinet has no legal obligation to relocate or underground the regulator.

In response, Multinet wishes to clarify that in addition to the reasons set out in the AAI, this site has also been proposed for relocation due to the condition of the outlet pipework on this site. The 450 mm outlet supply main from this site was laid in the 1890s and is in extremely poor condition. The Toorak Road regulator is located on a former gasworks site which is contaminated. This contamination continues to be an aggressive soil environment for pipework located on this site. Assessment of the pipe condition in 2010 found that the thinnest part of the pipe was measured at 8mm thick compared to 20 mm in some areas, with the standards in that period of manufacturing being between 25 mm to 28 mm wall thickness.

Large chunks of graphitised pipe fell off the surface or peeled off with little force during the inspection. The assessment was terminated as further work could have resulted in a failure. The soil was assessed as highly corrosive. The main was deemed to be in poor condition overall as a result of this assessment.

Based on this condition assessment, Multinet considers that:

- Continued high deterioration of the pipe will occur if works are delayed and this could cause unplanned emergencies with the shut-down of Toorak Rd and the Monash Freeway.
- Leak recurrence is ongoing and becoming more difficult to repair due to the location of the mains. The mains are at reasonable depth.
- Ongoing degradation will occur due to lack of cathodic protection.

Accordingly, Multinet considers that it is prudent to remove these mains through the relocation of the Toorak Road, Tooronga site. The relocation of this site enables the removal of these high risk assets. In addition, the below-ground installation of the regulator station will provide additional security as well as mitigating the risk of vandalism. It will also facilitate the relocation of high pressure facilities from within a property that Multinet no longer has control over in terms of future development.

Appendix 3-17 provides photographs showing the condition of the 450 mm outlet main.

Multinet's revised proposal includes a forecast of the cost of this project of $1 million over the forthcoming access arrangement period.

Johns Valve Replacement

The AER found that based on Multinet's AAI, the expenditure proposed for Johns Valve replacement is not considered to be prudent and efficient.

Multinet considers that the company's proposed replacement of 35 Johns Valves is consistent with the action that would be taken by a prudent service provider acting efficiently, in accordance with accepted good industry practice.

The Johns Valves installed in Multinet's high pressure networks are aged valves, with the oldest having been installed over 40 years ago. Given the age of these assets, and taking into consideration the fact that there are no records of the Maximum Allowable Operating Pressure for these valves, Multinet cannot be confident of their condition or their ability to operate safely and effectively. In addition, the design of this type of valve is such that the gate can slue when the valve is faced with a serious escape. Under these conditions, pressure variations occur and may cause the valve to jam during an emergency operation, therefore not allowing a proper seating.

Previous inspections of these valves in situ and following replacement have indicated that this family of valves is likely to be in very poor condition. Appendix 3-18 provides photographs showing the condition of the Johns Valves.

All Johns Valves are installed underground and have been exposed to highly corrosive soils, and high stray currents as a result of being located close to railways or tram arterials with no corrosion protection systems.

Multinet considers that it is prudent and efficient to replace these valves, to ensure ongoing system integrity and to provide the ability to isolate pipelines under emergency conditions. In view of:

- the condition of these valves;
- the fact that Multinet is unable to ascertain MAOP for these assets (which means that the valves may not comply with current standards);
- the possibility that all valves may not operate reliably; and
- the cost associated with excavation and inspection of the values,

Multinet proposes to replace 35 Johns Valves at a cost of $50,000 per valve over the forthcoming access arrangement period. The revised proposal therefore includes the forecast expenditure to complete this work.

3.10.3 Multinet's revised forecast of non-demand (Other) capital expenditure

The table below sets out Multinet's revised forecast of Other capital expenditure.

Table 3-14: Revised forecast of Other capital expenditure for the forthcoming access arrangement period ($m, real , 2012)

Project Title	2013	2014	2015	2016	2017
Hydraulic Regulator Replacement	0.1	0.3	0.3	0.3	0.1
Environmental Noise Improvement	0.1	0.1	0.1	0.1	0.1
Equipment Enclosures	0.1	0.1	0.1	0.1	0.1
Obsolete Regulator Replacement	0.2	0.2	0.2	0.2	0.2
District Regulator Replacement	0.3	0.3	0.3	0.3	0.3
Non-compliant fittings	0.1	0.1	0	0	0
John Valve Replacement	0.2	0.3	0.4	0.5	0.2
Albion Street, Glen Iris	0	0	0	0	0
Paschal St, Bentleigh	0.5	0	0	0	0
Graham St, Sth Melbourne	0	0.4	0	0	0
Vickery Rd, Bentleigh East	0	0	0.4	0	0
Wheatley Rd, Bentleigh	0	0	0	0.4	0
Toorak Rd, Tooronga	0	0	0	0.6	0.4
Large Consumer Regulators	0.1	0	0.1	0.1	0.1
Gas Heaters (excl. Lang Lang)	0	0	0	0	0
Lang Lang Heater	0	0	0	0	0
Telemetered CPUs	0	0	0	0	0
Cathodic Protection Systems (Distribution & Transmission)	0.2	0.2	0.2	0.2	0.2
Cathodic Protection Systems (Distribution)	0	0	0	0	0
Rectification for PIG; FTG	0	0.1	0	0	0
Rectification for PIG; Edithvale	0	0	0	1.2	2.3
Rectification for PIG; Murrumbeena	0	0	1.1	3.1	0.3
Syphon Removal	0.8	0.8	0.8	0.8	0.8
Property Projects	3.3	0	0	0	0
Non network	0.1	0	0	0	0
Total	**6.1**	**2.9**	**4.0**	**7.9**	**5.1**

3.11 Internal direct overheads

3.11.1 Overview of Draft Decision

Page 34 of the Draft Decision stated:

> "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 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."

3.11.2 Multinet response

Multinet's forecast of capital expenditure includes the capitalisation of internal labour. Multinet's revised forecast of capital expenditure includes the amounts of capitalised internal labour shown in the table below.

Table 3-15: Capitalised internal labour ($m, real , 2012)

Business Unit	2013	2014	2015	2016	2017	Total
Network Operations	2.0	2.9	2.9	3.0	3.0	13.7
Customer and Market Services	0.0	0.0	0.0	0.0	0.0	0.0
IT & SCADA(Software)	0.5	0.5	0.5	0.6	0.6	2.7
Corporate	0.1	0.1	0.1	0.1	0.1	0.3
Total	**2.5**	**3.4**	**3.5**	**3.6**	**3.6**	**16.7**

These costs represent the efficient costs of internal resources attributable to the provision of capital activities.

The functions undertaken by these internal resources include:

- Asset management planning
- Preparation of estimates for capital projects
- Preparation of business cases for capital projects
- Investigation, planning and pre-construction activities for capital projects
- Design for capital projects
- Liaison and negotiation with other authorities for capital projects

- Obtaining regulatory approval for capital projects
- Negotiating and obtaining land access and tenure (easements, licenses, leases) for capital projects
- Route assessment for capital projects
- Risk assessments and studies for capital projects
- Network modelling for capital projects
- Materials and component evaluation, approval, quality assurance and control for capital projects
- Packaging of works
- Opening relevant financial and asset systems and closing them out on completion.

It is noted that these activities are not overhead activities. They are all activities undertaken directly in relation to the provision of capital services. These activities must be undertaken, regardless of whether they are performed by Multinet or the outsourced service provider. However, it is most efficient for these functions to be undertaken by Multinet as the owner of the network. Performance of these functions internally ensures that Multinet retains control over the work performed in terms of timing and scope.

The capital works prices tendered by Multinet's service providers for the forthcoming access arrangement period are on the basis that the functions described above will be performed by Multinet. The estimated costs of these functions - set out in the table above - must therefore be included in Multinet's expenditure forecast. The inclusion of these costs results in a forecast of capital expenditure consistent with what 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.

3.12 Multinet's revised capital expenditure forecast

Based on its responses to the issues arising from the Draft Decision's proposed capital expenditure allowances, Multinet has prepared a revised capital expenditure forecast, shown in the table below. Appendix 3-1 provides a copy of the detailed spreadsheet model used by Multinet in the preparation of its revised capital expenditure forecast.

Table 3-16: Multinet's revised capital expenditure forecast for the 2013-17 Access Arrangement period (2012$M)

	YEAR ENDING 31 DECEMBER					Total 2013-17
	2013	2014	2015	2016	2017	
Mains replacement	21.3	9.2	17.3	29.0	12.7	89.4
Residential connections	13.5	16.6	16.2	15.9	16.0	78.1
Commercial/industrial connections	0.7	0.9	0.9	0.9	0.9	4.3

	YEAR ENDING 31 DECEMBER					Total 2013-17
	2013	2014	2015	2016	2017	
Meters	4.3	3.3	3.0	2.4	2.7	15.7
Augmentation	9.7	7.8	7.0	7.3	8.1	39.9
IT	29.3	6.9	5.0	6.6	3.0	50.8
SCADA	0.9	0.3	0.2	0.9	0.3	2.6
Other	16.2	5.8	4.4	8.3	5.6	40.2
Internal direct overheads						
Indirect overheads						
GROSS TOTAL	**95.8**	**50.8**	**53.9**	**71.3**	**49.2**	**321.0**
Customer contributions	11.6	4.3	1.6	1.6	1.6	20.7
Government contributions						
NET TOTAL	**84.2**	**46.5**	**52.3**	**69.7**	**47.6**	**300.3**

The table on the following page presents a comparison, in 5-year aggregate terms by expenditure category of:

- the regulatory allowances and Multinet's actual capital expenditure for the current access arrangement period;
- the capital expenditure forecast for the forthcoming access arrangement period contained in Multinet's original proposal lodged in March;
- the Draft Decision; and
- Multinet's revised capital expenditure forecast.

Table 3-17: Multinet's revised capital expenditure forecast for the 2013-17 Access Arrangement period (real 2012)

Category	2008-2012 Decision	2008-2012 Actual	2013-2017 Original proposal	2013 – 2017 Draft Decision	2013-2017 Revised Proposal
Mains Replacement					
Pipe works					
Length in kms	557	244	442	240	274
Unit Rate	$184,262.2	$188,142.8	$216,536.8	$186,860.0	$228,864.2
Total Pipe works ($000s)	102,634.0	45,883.9	95,814.1	42,018.8	62,789.4
Unplanned Service Renewal	4,814.3	10,487.0	10,314.1	2,827.6	8,227.2
Large Diameter Cast iron Replacement			10,890.2	0.0	7,190.3
LPDZ LP-LP			4,759.9	0.0	4,757.1
LPDZ LP-LP Large Diameter			6,338.4	0.0	6,401.1
Total Mains replacement ($000s)	107,448.4	56,370.9	128,116.6	44,846.4	89,365.1
Residential Connections					
No. of Connections	43,415	37,762	42,123	39,131	42,157
Unit Rate	$1,523.2	$1,713.7	$2,280.1	$1,572.4	$1,853.7
Total ($000)	66,131.3	64,714.1	96,044.8	61,531.0	78,146.3
Commercial/Industrial Connections					
No. of Connections	2,141	743	969	959	979
Unit Rate	$4,430.2	$4,129.3	$10,309.3	$4,422.3	$4,422.3
Total ($000)	9,485.0	3,067.6	9,984.6	4,239.4	4,329.4
Residential Meters					
No of Replacements	47,076	87,930	91,747	91,747	83,590
Unit Rate	$150.1	$119.7	$151.9	$112.9	$129.5
Total ($000)	7,065.8	10,529.1	13,934.7	10,362.1	10,820.9
Commercial Meters					
No of Replacements	2,571	-	-	-	3,107
Unit Rate	$1,472.0	-	-	-	$1,555.6
Total ($'000)	3,784.4	2,642.5	759.9	858.2	4,833.2
Augmentation					
Total ($000s)	30,550.7	31,606.8	39,575.6	7,446.0	39,906.6
IT					
Total ($000s)	29,041.7	59,134.0	46,900.8	36,038.2	50,793.0
SCADA					
Total ($000s)	1,856.3	2,159.2	5,295.0	619.0	2,550.4
Other Non-Demand					
Total ($000s)	22,634.6	4,033.7	34,793.2	18,194.6	25,967.0
Recoverable Works					
Total ($000s)	$-	$6,255.9	$14,245.4	$14,245.4	$14,272.4
New Towns					
Total ($000s)	16,898.1	21,369.7	$-	$-	$-
Total Capex ($000s)	**294,896.2**	**261,883.4**	**389,650.7**	**198,380.3**	**320,984.3**

4. Depreciation

4.1 Overview

Multinet's forecast of regulatory depreciation was rejected by the AER. The Draft Decision proposes a total regulatory depreciation allowance over forthcoming access arrangement period of $114.3 million (in nominal dollars), which is a reduction of $66.7 million (nominal dollars) or 36.9 per cent of Multinet's proposed total regulatory depreciation allowance.

Multinet has revised its depreciation forecast in response to the Draft Decision. These revisions are described in this chapter, which is structured as follows:

- Section 4.2 presents a summary of the Draft Decision's proposed allowance.
- Sections 4.3 to 4.7 inclusive present Multinet's responses on matters raised in the Draft Decision .
- Multinet's revised regulatory depreciation allowance is set out at the conclusion of this chapter in section 4.8.

4.2 Draft Decision and issues arising

Multinet proposed a total straight line depreciation allowance of $305.6 million (in 2012 dollars) for the whole of the forthcoming access arrangement period. After adjusting this for indexation of the opening capital base, and applying the CPI forecast set out in the Draft Decision, this equates to a total regulatory depreciation allowance over the period of $181 million in nominal terms.

The AER's Draft Decision on Multinet's total regulatory depreciation allowance over the forthcoming access arrangement period is $114.3 million (nominal dollars) as shown in the table below, which reproduces Table 8.1 of the Draft Decision. This represents a reduction of $66.7 million (nominal dollars) or 36.9 per cent of Multinet's proposed total regulatory depreciation allowance.

Table 4-1: 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 Draft Decision Part 1, Table 8.1.

Multinet's responses in relation to the issues raised in the Draft Decision are set out below as follows:

- Section 4.3 sets out Multinet's response on accelerated depreciation.
- Section 4.4 provides Multinet's response on the separate categorisation of land and buildings.
- Section 4.5 sets out Multinet's response on matters relating to the economic lives of assets.

- Section 4.6 addresses the use of actual or forecast depreciation to establish the opening capital base value at the end of the forthcoming access arrangement period.
- Section 4.7 provides Multinet's forecast tax depreciation.

Multinet's revised regulatory depreciation allowance is presented in section 4.8.

4.3 Accelerated depreciation

4.3.1 Overview of Draft Decision

The AER did not approve Multinet's proposed (accelerated) depreciation allowance for forecast redundant assets for the forthcoming access arrangement period.

4.3.2 Multinet response

Multinet has accepted the AER's Draft Decision to not approve the proposed accelerated depreciation allowance for forecast redundant assets for the forthcoming access arrangement period.

4.4 Separate asset categories for land and buildings

4.4.1 Overview of Draft Decision

The AER considered 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 considered that the 'Buildings' asset class should be assigned a standard economic life of 50 years, and the 'Land' asset class should not be assigned a standard economic life reflecting the non-depreciating nature of the asset.

4.4.2 Multinet response

Multinet accepts the AER's Draft Decision to split "Land & Buildings" into two separate categories. In accordance with the Draft Decision, Multinet agrees to amend the depreciation approach from declining balance to straight-line depreciation for the Land and Buildings asset categories.

4.5 Economic lives of assets

4.5.1 Overview of Draft Decision

The AER considered 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 determined that a standard economic life of 15 years is more appropriate.

The AER contended that there are errors in Multinet's calculation of its remaining economic lives for depreciating existing assets. The Draft Decision required Multinet to 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.

4.5.2 Multinet response

Multinet proposes to accept the AER's assessment of the economic and remaining lives for the forthcoming access arrangement period. The tables below set out the asset lives adopted for the revised calculation of depreciation.

Table 4-2: Remaining Asset Lives as at 1 January 2013

Asset Class	Original Proposed	Draft Decision	Revised Proposal
Transmission and Distribution	31.6	33.5	33.5
Services	30.1	30.6	30.6
Cathodic Protection	51.7	45.5	45.5
Supply Regulators / Valve stations	21.7	18.4	18.4
Meters	9.8	10.5	10.5
Land and buildings	40.0	n/a	n/a
IT	5.1	5.0	5.0
SCADA	5.0	0.0	0.0
Other	7.0	6.0	6.0
Pipeworks retirement	5.0	n/a	n/a
Buildings	40.0	n/a	n/a

Table 4-3: Economic Asset Lives

Asset Class	Original Proposed	Draft Decision	Revised Proposal
Transmission & Distribution	50.0	50.0	50.0
Services	50.0	50.0	50.0
Cathodic Protection	50.0	50.0	50.0
Supply Regulators / Valve stations	50.0	50.0	50.0
Meters	30.0	30.0	30.0
Land and buildings	40.0	n/a	n/a
IT	5.0	5.0	5.0
SCADA	7.0	15.0	15.0
Other	10.0	10.0	10.0
Pipeworks retirement	5.0	n/a	n/a
Pipeworks retirement	5.0	n/a	n/a
Buildings	40.0	50.0	50.0

4.6 The use of actual or forecast depreciation

The AER has accepted 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[50].

4.7 Forecast tax depreciation

4.7.1 Overview of Draft Decision

The AER adjusted several of Multinet's proposed inputs to the PTRM for calculating the corporate income tax allowance, including the following:

- splitting the 'Land & buildings' asset class into two separate asset classes of 'Land' and 'Buildings';
- depreciating the 'Buildings' asset class using the straight-line method' and
- not assigning a tax depreciation charge to the 'Land' asset class due to the non-depreciating nature of this asset.

4.7.2 Multinet response

Multinet has adopted the AER's adjustments to the PTRM inputs used to calculate the corporate income tax allowance. The forecast tax depreciation in relation to the regulated asset base has been calculated in accordance with the statutes administered by the Australian Tax Office. Multinet's revised forecast of tax depreciation is set out in the table below.

Table 4-4: Regulatory Tax depreciation 2013 - 2017 period ($m, MOD)

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Original Proposed	46.1	51.4	54.2	57.0	59.7
AER Draft Decision	41.1	42.2	41.4	41.0	40.3
Revised Proposal	48.2	51.4	50.9	51.8	52.7

4.8 Multinet's revised regulatory depreciation allowance

Based on the responses set out above, the following table presents Multinet's revised straight line depreciation forecast. The revised depreciation forecast has been calculated using the lives shown in Table 4-2. It also includes the minor formulae corrections to the PTRM, which the Draft Decision identified as being required.

[50], AER, Multinet 2013 – 2017 GAAR Draft Decision Part 2, Attachments, page 30.

Table 4-5: Straight line depreciation for the forthcoming access arrangement period ($m, real 2012)

	Year Ending 31 December					
	2013	2014	2015	2016	2017	Total
Original Proposed	52.9	58.5	61.7	64.4	68.1	305.6
AER Draft Decision	39.3	44.6	46.5	48.1	49.8	228.3
Revised Proposal	46.2	52.7	54.9	57.0	59.7	270.5

The table below presents Multinet's proposed regulatory depreciation (that is, straight line depreciation adjusted for indexation of the capital base) in nominal terms.

Table 4-6: Multinet's revised regulatory depreciation for the 2013-17 Access Arrangement period ($M in nominal terms)

	Year Ending 31 December					
	2013	2014	2015	2016	2017	Total
Straight-line depreciation	47.3	55.3	59.2	62.9	67.6	292.3
Less: indexation on opening capital base	26.2	27.8	28.4	29.1	30.2	141.7
Regulatory depreciation	21.2	27.5	30.8	33.8	37.4	150.6

It is noted that Multinet's revised depreciation amount differs from the depreciation allowance set out in the Draft Decision. This is due to the impacts of:

- Multinet's revised capital expenditure forecast for the forthcoming access arrangement period, which differs from the Draft Decision; and
- Multinet's adoption of an opening asset base value that differs from the values proposed in the Draft Decision.

5. Capital base

5.1 Overview

The Draft Decision adopted an opening capital base value of $1016.5 million ($nominal) as at 1 January 2013, which is approximately $56 million less than that proposed by Multinet.

The Draft Decision made adjustments to the capital base value as at 1 January 2008, to align it with the value specified in the ESC's 2008 Gas Access Arrangement Review Determination. Multinet's revised proposal adopts the adjustments required by the Draft Decision.

The Draft Decision also made an adjustment to Multinet's forecast of conforming capital expenditure for the final year (2012) of the current access arrangement period. Multinet has not adopted the AER's adjustment. Multinet has revised its forecast of 2012 capital expenditure (revising it down from $99.0 million to $76.3 million) and has adopted that revised forecast of conforming capital expenditure for 2012 (of $76.3 million) for the purpose of establishing the capital base at the commencement of the forthcoming access arrangement period.

Multinet's responses to the Draft Decision are set out in this chapter, which is structured as follows:

- Section 5.2 presents a summary of the Draft Decision.
- Sections 5.3 to 5.5 inclusive present Multinet's responses on matters raised in the Draft Decision .
- Multinet's revised capital base is set out at the conclusion of this chapter in sections 5.6 and 5.7.

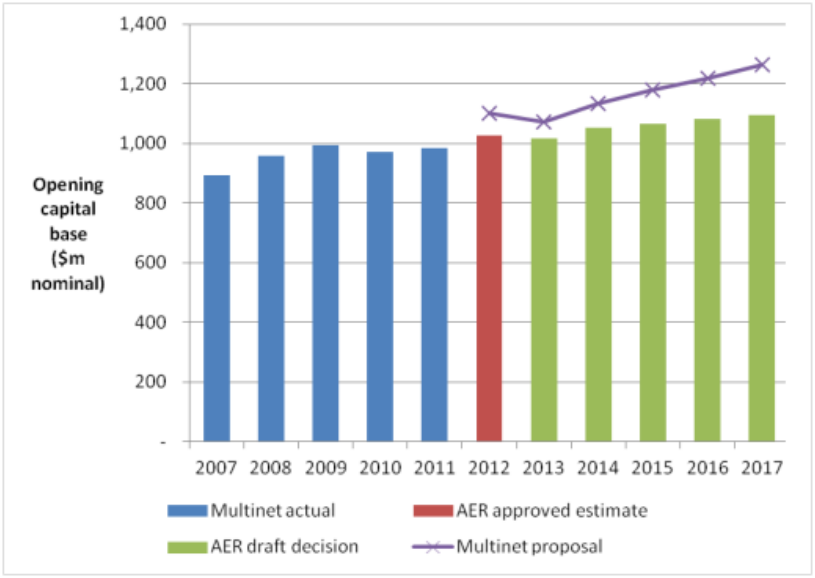
5.2 Draft Decision and issues arising

The Draft Decision did not approve Multinet's proposed opening capital base of $1072.9 million as at 1 January 2013 because it considered that some of Multinet's inputs into the capital base roll forward model do not comply with the Rules. These inputs included:

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

After adjusting these inputs, the AER 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. The figure below (which reproduces Figure 5.1 of the Draft Decision) shows Multinet's past actual opening capital base values and the forecast values proposed by Multinet and by the Draft Decision.

Figure 5-1: Multinet's past and forecast opening capital base and the draft decision ($million, nominal)



Source: Draft Decision Part 1, Figure 5.1.

The table below reproduces Table 5.1 of the Draft Decision, and shows the Draft Decision on the roll forward of Multinet's capital base during the current access arrangement period. It is noted that the AER's roll forward of Multinet's capital base for the current regulatory period is to approve Multinet's proposed $231.7 million ($2012) total net capital expenditure for the period from 2007 to 2011 as conforming capex for the purpose of setting the capital base for that period.

Table 5-1: AER's Draft Decision on Multinet's capital base roll forward for the 2008–12 access arrangement period ($m, real , 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: Draft Decision Part 1, Table 5.1.

(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 capital expenditure, depreciation, and inflation, the AER determined a projected closing capital base of $1097.0 million ($nominal) as at 31 December 2017. The table below reproduces Table 5.2 of the Draft Decision. It sets out the AER's projected roll forward of the capital base during the forthcoming 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: Draft Decision Part 1, Table 5.2.

Multinet's responses to the key elements of the Draft Decision are set out as follows:

- Section 5.3 addresses the capital base at 1 January 2008.
- Section 5.4 addresses conforming capital expenditure during the current period, and presents Multinet's revised forecast of capital expenditure for 2012.
- Section 5.5 sets out Multinet's position on the treatment of 2012 capital expenditure for the purpose of establishing the capital base.
- Section 5.6 shows the derivation of Multinet's revised capital base at the start of the forthcoming access arrangement period.
- Section 5.7 presents Multinet's revised projected capital base for forthcoming access arrangement period.

5.3 Capital base at 1 January 2008

The capital base value at the commencement of the current regulatory period was set out in the ESC's 2008 Gas Access Arrangement Review Determination. The opening capital base value at 1 January 2008 is shown in the table below.

Table 5-3: Comparison of capital base values at 1 January 2008 ($m, real 2012)

	Capital Base at 1 Jan 2008

	Capital Base at 1 Jan 2008
Multinet's original proposal	1,085.9
Draft Decision	1,082.1
Multinet's revised proposal	1,082.1

Multinet accepts the AER's decision to remove $3.87 million from the capital base value as at 1 January 2008.

5.4 Conforming capital expenditure for the current period

Multinet welcomes the AER's approval of Multinet's proposed $231.7 million ($2012) total net capital expenditure for the period from 2007 to 2011 as conforming capex for the purpose of setting the capital base for that period.

The table below sets out the conforming capital expenditure undertaken by Multinet in the current access arrangement period (that is, from 2008 to 2012 inclusive), which has been included in the capital base. The capital expenditure forecast for 2012 is Multinet's updated forecast of actual expenditure for that year.

Table 5-4: Revised conforming capital expenditure for the period from 1 January 2008 to 31 December 2012 ($m real 2012)

Asset class	YEAR ENDING 31 DECEMBER				
	2008	2009	2010	2011	2012 (forecast)
Mains and Services	37.1	34.2	30.2	37.0	44
Meters	3.1	3.6	3.9	3.0	3.2
Land & Building	0.0	0.0	0.0	0.0	0.7
SCADA	0.1	0.1	0.0	0.6	2.0
Computer Equipment	0.9	1.3	6.4	23.8	26.4
Other Assets	0.0	0.0	0.2	0.1	0.0
Total Gross Capex	**41.2**	**39.1**	**40.8**	**64.5**	**76.3**

It is noted that since lodging its original proposal in March, Multinet has revised its forecast of conforming capital expenditure for calendar year 2012 from $99.0 million to $76.3 million. This represents a reduction in forecast capital expenditure for the year of $22.7 million, which is driven by the following factors:

- There has been a reduction in IT capital expenditure compared to the March 2012 forecast, due to delays in delivery of the ERP project.

- There has been a reduction in Multinet's planned network expenditure for 2012 compared to the March 2012 forecast.

The next section examines the treatment of Multinet's revised forecast of 2012 capital expenditure for the purpose of establishing the capital base at the commencement of the forthcoming access arrangement period.

5.5 Treatment of 2012 capital expenditure for the purpose of establishing the capital base

5.5.1 Overview of Draft Decision

At section 2.1 of Part 2 of the Draft Decision, the AER determines not approve Multinet's proposed opening capital base in part because it considers Multinet's revised estimate for capex for 2012 does not comply with the NGR.

In section 2.4.2, under the sub heading Adjustments to 2012 capex, the AER states that it "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" and under the heading Operation of the ESC's approach for final year capex, the AER presents its view that that the ESC's approach "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". Finally under the heading, AER's approach to updating the capital base for actual capex, the AER says:

> "Under the NGR, 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."

5.5.2 Multinet response

The AER's decision in relation to Multinet's revised estimate for capital expenditure for 2012 is made to give effect to what the AER regards as the ESC's capital expenditure incentive mechanism and, in particular, to effect a decrement to Multinet's total revenue for each year of the next regulatory period.

For the reasons discussed in section 7.3 of this response, this is a misapplication of clause 5(1)(a) of Schedule 1 of the Rules and the incentive mechanism in Multinet's access arrangement. Moreover, for the AER to apply the incentive mechanism in Multinet's access arrangement in such a way that results in decrements is not be authorised by section 8.44 of the Gas Code on which the incentive mechanism in Multinet's access arrangement relies.

Clause 6.4(b)(2) of Multinet's access arrangement describes how the mechanism operates with regard to capital expenditure in 2012 and says "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". However, that sentence can only operate where to apply it effects an efficiency gain

and a reward as that paragraph otherwise provides. To apply that sentence in such a way that results in decrements is not authorised by the incentive mechanism itself and not authorised by section 8.44 of the Gas Code.

The AER must apply its standard approach described the heading, AER's approach to updating the capital base for actual capex**,** as:

> "[the AER] 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."

To do otherwise results in a decrement to Multinet's total revenue, an outcome not authorised under the Rules.

On the basis of the reasoning set out above, Multinet has adopted its revised forecast of conforming capital expenditure for 2012 (of $76.3 million) for the purpose of establishing the capital base at the commencement of the forthcoming access arrangement period.

The table below sets out the total conforming capital expenditure for the current access arrangement period which has been used by Multinet to calculate its revised capital base value as at 1 January 2013. For comparative purposes, the table also shows the conforming capital expenditure set out in Multinet's original proposal, and the allowance provided in the Draft Decision.

Table 5-5: Conforming capital expenditure (excluding customer contributions) in the current regulatory period ($m real 2012)

	YEAR ENDING 31 DECEMBER				
	2008	2009	2010	2011	2012
Original proposal	38.8	13.2	38.3	62.3	98.0
Draft Decision	38.8	13.2	38.3	62.3	45.6
Revised proposal	**38.8**	**13.2**	**38.3**	**62.3**	**76.3**

5.6 Revised capital base at the start of the forthcoming access arrangement period

Based on the information presented in sections 5.3 and 5.4 above, the table below sets out the calculation of the capital base value as at 1 January 2013.

Table 5-6: Revised roll forward of the RAB value from 1 January 2008 to 31 December 2012 ($m, real 2012)

Revised Proposal	YEAR ENDING 31 DECEMBER				
	2008	2009	2010	2011	2012
Opening capital base	1,082.1	1,071.8	1,033.1	1,017.8	1,025.8
Add conforming capital expenditure (less CC)	38.8	13.2	38.3	62.3	75.3
Deduct Depreciation	49.1	51.8	53.6	54.3	54.9
Deduct disposals	0.0	0.0	0.0	0.0	0.0
Closing capital base	**1,071.8**	**1,033.1**	**1,017.8**	**1,025.8**	**1,046.2**

5.7 Revised projected capital base for forthcoming access arrangement period

Multinet has adopted the opening capital base set out in section 5.6, the revised capital expenditure forecasts set out in section 3.12, and the revised depreciation forecast set out in section 4.8 to derive the projected capital base for the forthcoming access arrangement period. This is set out in the table below.

Table 5-7: Projected capital base for the forthcoming Access Arrangement Period ($m, real 2012)

	YEAR ENDING 31 DECEMBER				
	2013	2014	2015	2016	2017
Opening capital base	1,046.2	1,086.5	1,081.5	1,080.3	1,094.8
Forecast capital expenditure	86.4	47.7	53.7	71.5	48.9
Forecast depreciation	46.2	52.7	54.9	57.0	59.7
Disposals and Surcharges	0.0	0.0	0.0	0.0	0.0
Closing capital base	**1,086.5**	**1,081.5**	**1,080.3**	**1,094.8**	**1,083.9**

6. Cost of capital and taxation

6.1 Overview

Multinet accepts many of the Draft Decision's cost of capital and tax parameters, including the cost of debt. However, Multinet firmly rejects the AER's estimated cost of equity.

Rule 87(1) requires the rate of return to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. In determining the rate of return on capital, 87(2)(b) states that a well accepted financial model, such as the Capital Asset Pricing Model (CAPM), is to be used.

The Tribunal has made it clear that the selection of the appropriate input parameters is a critical step in ensuring that the well-accepted approach using a well accepted financial model produces an outcome which accords with the objective expressed in rule 87(1).[51] As explained below, the input parameters selected by the AER are not internally consistent. In the current market conditions, this inconsistency produces a cost of equity that does not comply with rule 87(1). The Draft Decision is therefore in error.

The AER's view that the input parameters for the CAPM must reflect prevailing conditions in the market for funds is an incorrect reading of rule 87 and the Tribunal's recent decisions. It is the outcome of the application of the well accepted approach and well accepted financial model that must reflect prevailing conditions in the market for funds and the risk involved in providing reference services, not the parameters.

To understand why the AER has made an error in its estimation, it is instructive to consider how regulators in the UK have approached the selection of the input parameters in the CAPM. It should be recalled that CPI-X regulation originated in the UK, and UK regulators also apply the CAPM to estimate the cost of equity. Multinet has obtained two separate independent expert opinions from Professor Stephen Wright and Professor Alan Gregory, who have extensive experience in advising UK regulators and the Competition Commission on cost of capital issues. It is particularly noteworthy that Professor Stephen Wright was co-author of the Smithers reports in 2003 and 2006, which now form the basis of UK regulatory practice on the cost of capital.

Both Professor Stephen Wright and Professor Gregory have identified the same error in the AER's approach to selecting the input parameters for the CAPM. We will return to this error shortly. Importantly, however, the AER's error in selecting the input parameters has resulted in a cost of equity that is too low. It is the resulting cost of equity estimate that matters most to investors, and ultimately to Multinet's customers. Its central importance is reflected not only in rule 87(1), but also in the Revenue and Pricing Principles in the National Gas Law.

In discussions during the review process, the AER has asked Multinet for market evidence that the AER's cost of equity estimates are too low. This is an inherently difficult challenge because the cost of equity cannot be observed directly. The best source of market information is the market cost of equity estimated by independent experts in company valuations. These independent expert reports provide reliable evidence because real-world transactions and investment decisions are made on the

[51] Australian Competition Tribunal, Application by DBNGP (WA) Transmission Pty Ltd (No 3) [2012] ACompT 14 (26 July 2012), paragraph 87.

basis of such reports. In addition, the independent experts face obligations under the Corporations Law and therefore the views are the best available market evidence.

Ernst & Young has undertaken a comprehensive review of the independent expert reports published from January 2008 to October 2012. The results from this study provide compelling evidence that the AER's cost of equity estimate is too low and does not comply with rule 87(1). In particular:

- In 2012, without adjusting for the value of imputation credits, the market cost of equity (assuming a beta of 1) averages 10.7 per cent whereas the AER's approach yields an average of 9.5per cent if it is applied at the same date as the expert reports. This is a difference of 120 basis points, which is very significant. Moreover, the gap between the AER's cost of equity and the independent experts' assessment widens if the value of imputation credits is taken into account. Specifically, Ernst & Young states that in relation to 2012 data, when the value of imputation credits is taken into account the difference between the AER's cost of equity and the prevailing market cost of equity implied by independent experts is 2.2 per cent.

- The AER's estimated market cost of equity for the Victorian gas businesses is 8.98 per cent (assuming a beta of 1), which is approximately 170 basis points below the independent experts' average.

- It is instructive to examine the AER's cost of equity decisions in the previous 4 years, when the yield on 10 year Commonwealth Government Securities (CGS) was not at an all-time low. In three of those four years, the AER's estimates were above the average of the independent experts and were always within 40 basis points of the experts' average.

In addition to the views of independent experts, it is instructive to consider the views of investors. A recent submission from the Financial Investor Group to the AEMC highlighted investors' concerns that recent regulatory decisions have produced cost of equity estimates that are unprecedentedly low, and which do not accord with capital market expectations. These statements provide further market intelligence that the actual cost of equity substantially exceeds the AER's current estimates.

It is helpful now to return to the error identified by the UK experts. Professor Gregory explains the error as follows:[52]

> "[The AER] has combined an MRP that has been largely derived from historical observation with a current spot rate estimate of the risk free rate. In doing so, it has assumed that the MRP is constant, and has made no allowance for any possible inverse relationship between the risk free rate and the MRP. Other regulators, both in the UK and in Australia (IPART) are aware of this potential relationship and have made due allowance for it."

Professor Wright has independently identified exactly the same error, and has pointed to the potentially serious consequences in the Australian context:[53]

> "The AER, by assuming that the risk premium is constant, and hence that the cost of equity capital has simply followed the risk free rate down point by point, has in my view made a clear error.

[52] Professor Alan Gregory, The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, paragraph 6.

[53] Professor Stephen Wright, Review of Risk Free Rate and Cost of Equity Estimates: A Comparison of UK Approaches with the AER, page 3.

> This behaviour is particularly inappropriate in the Australian context. By assuming a lower cost of capital, the AER is imposing a lower return on capital for the regulated company, at a time when profitability, and hence returns of unregulated companies are at a cyclical high, which is in turn inducing very strong investment. This puts regulated companies at a potentially severe disadvantage compared to unregulated companies, and implies the serious risk that regulated companies will under-invest."

It is evident from the market evidence and the expert opinions of Professor Wright and Professor Gregory that the AER's combination of historic average MRP and spot risk free rate does not produce a cost of equity that is commensurate with prevailing conditions in the market for funds.

In broad terms there are two legitimate methods for selecting the parameter values in the CAPM:

1. Adopt 'spot estimates' of the risk free rate and MRP; or

2. Adopt long-term averages of the risk free rate and MRP.

The advice from the UK experts is that either method, properly applied, can be used to establish the prevailing cost of equity. Both methods involve estimation challenges:

- For the 'spot' approach, the estimation of the MRP is particularly challenging because it cannot be observed directly and must be estimated through forward-looking models such as the Dividend Growth Model.

- Contrary to the AER's view, the prevailing market cost of equity can be derived using the long term historic average approach. As noted by the UK experts, this approach recognises that combining long term averages for each parameter may be subject to less estimation error than the spot approach, which may be distorted by short-term market conditions. As explained below, this is exactly the reason why IPART has adopted this estimation method in recent decisions.

Whichever approach is adopted, it must be applied consistently. What is not acceptable is to 'mix and match' between the two methods.

The AER claims that it has adopted method 1, but this is not the case. The AER's MRP of 6 per cent is a long term historic average. It is the same estimate adopted by the ACCC in 1998, and it has been applied almost continuously since then. The AER does not propose to update the estimate as it does in relation to the risk free rate.

In fact, the AER does not employ either of methods 1 and 2 above. Instead, the AER incorrectly takes the 'spot' risk free rate from method 1 and combines it with a long-term average MRP from method 2. It is a 'mix and match' approach, which the UK experts have explained is in error both in theory and good regulatory practice. This leads to the estimation error already described.

From an investor perspective, it does not matter how the AER chooses to correct the error. It is open to the AER to revisit the MRP estimate and adopt a value that is consistent with a 'spot' measure. Alternatively, as explained in this proposal, it is open to the AER to adopt a long-term average of the risk free rate, and combine this estimate with a long-term average of the MRP (that is, 6 Per cent)

The AER's advisor, Associate Professor Lally, has raised objections to the long-term average approach, arguing that it violates 'the present value principle'. However, Multinet has obtained three independent expert reports which all conclude that Associate Professor Lally has made overly

simplistic assumptions in his analysis that do not apply in practice. If these assumptions are relaxed – as they must be – his conclusions are not valid. In plain terms, Associate Professor Lally's objections do not stand scrutiny.

To further demonstrate that the AER's cost of equity estimate is too low, Multinet has asked CEG and SFG Consulting to examine other available market data. These independent expert reports make compelling reading. In particular, CEG and SFG Consulting conclude that the AER's estimate of the cost of equity is inconsistent with the following observable facts in the market:

- The AER's cost of equity estimate is substantially below the 'lower bound' estimates that can be derived from market information on dividend yields.
- Dividend yields have increased as CGS yields have fallen, indicating that the MRP has increased.
- DGM estimates of the MRP are substantially above 6 per cent.
- The spread between low risk assets and the yield on CGS has increased as CGS yields have fallen, which indicates that the MRP has increased.
- The spread between the cost of debt and the AER's estimate of the cost of equity is unrealistically low.

The information set out by CEG and SFG Consulting illustrates the range of additional evidence that shows the AER's cost of equity estimate is too low. SFG Consulting also explains that the AER's 'reasonableness checks' relate to out-dated estimates of trading and transaction multiples, which, in any event, provide no meaningful information about the relationship between investors' required returns and the AER's estimate of the cost of capital.

In this revised proposal, Multinet has recognised that in successive regulatory decisions the AER has rigidly adhered to an MRP of 6 per cent. Professor Wright provides specific advice in relation to such circumstances in his concluding remarks:

> "….if the AER continues to assume a constant MRP based primarily derived from realised returns, a possible compromise approach would be to combine this with a historic average risk-free rate."

In this revised proposal, Multinet adopts a long term average measure of the risk free rate measured over 10 years, consistent with the IPART approach. Although there are alternative measures that could be adopted, the IPART approach has the benefit of regulatory precedent in Australia. Furthermore, it directly addresses the following concern raised by the AER: [54]

> "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."

Multinet notes that by adopting a 10 year averaging period, as adopted by IPART, there can be no suggestion that the period has been adopted to manipulate the results. Furthermore, the

[54] AER, Draft Decision, Part 3, page 13 (pdf).

corresponding market cost of equity (assuming a beta of 1) is 11 per cent, which is closely aligned with Ernst & Young's market evidence for 2012, which shows an average estimate by independent experts of 10.7 per cent. This close alignment is consistent with the AER's regulatory decisions prior to 2012.

6.2 Recap of Multinet's original proposal

Before presenting Multinet's response to the Draft Decision, this section recaps briefly on Multinet's original proposal, as follows:

- The NGL requires that service providers have a reasonable opportunity to recover at least their efficient costs, which includes the rate of return.
- Multinet's WACC proposal:
  - employed the CAPM to estimate the cost of equity, using appropriate measures of the risk free rate; the MRP; and the equity beta;
  - used a debt risk premium that reflects the best available market data for a benchmark firm with a BBB+ credit rating; and
  - adopted a value of 0.25 for gamma, which is consistent with the findings of the Australian Competition Tribunal.
- In relation to the cost of equity, Multinet explained that the AER's then most recent cost of equity estimate (for Aurora Energy) fails to satisfy the NGL or NGR requirements. This failure arises from a basic inconsistency in the AER's estimation process. Specifically, the AER combines:
  - **Historic data** for the MRP over various periods from 1883 to the present day; and
  - **Current data** for the risk free rate.
- Ordinarily, mixing historic and current data would not matter, assuming that the current risk free rate is relatively stable and consistent with the MRP estimate. However, the global financial crisis has precipitated a very significant decline in the risk free rate. At the time of Multinet's original proposal, the risk free rate was at its lowest level for 50 years.
- Multinet explained that there are two alternative approaches for deriving appropriate estimates of the cost of equity:
  - Consistently adopt historic averages to estimate the forward-looking risk free rate and MRP; or
  - Consistently adopt 'spot' measures of the risk free rate and MRP.

  Multinet's application of both approaches produced cost of equity estimates of approximately 10.8 per cent. The consistency of these outcomes provided confidence that Multinet's estimate satisfied the NGR and NGL.
- Multinet's estimated cost of debt was 7.91 per cent. Multinet proposed to update this estimate in response to the AER's Draft Decision to reflect the latest available market information.

- Multinet's nominal vanilla WACC, which assumes a benchmark gearing of 60 per cent, was 9.1 per cent.

6.3 The AER's Draft Decision and issues arising

The table below (Table 4.1, reproduced from the AER's Draft Decision) sets out the individual WACC parameters and rate of return proposed by Multinet alongside the values determined by the AER.

Table 6-1: 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%
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 major difference between Multinet's proposal and the AER's Draft Decision is in relation to the cost of equity. Multinet addresses this issue in further detail in Sections 6.5, 6.6 and 6.7.

Before turning to the cost of equity issue, it is important to note the matters where Multinet concurs with the Draft Decision:

- The CAPM may be used to estimate the cost of equity.
- The equity beta estimate is 0.8.

- The benchmark cost of debt is the yield on 10 year Australian corporate bonds with a BBB+ credit rating, estimated using the extrapolated Bloomberg BBB rated 7 year fair value curve using paired bond analysis.

- The benchmark gearing is 60 per cent.

- The inflation forecast should be based on the Reserve Bank of Australia (RBA) forecasts and the mid-point of the RBA's inflation targeting band.

- The value of gamma is 0.25.

From Multinet's perspective, these aspects of the cost of capital and tax allowance can be 'locked-in'.

In relation to the MRP, Multinet is mindful of the recent Australian Competition Tribunal decisions on this matter[55]. In those decisions, the Tribunal has concluded that if the AER has evidence that supports an MRP estimate of 6 per cent, then the Tribunal will not interfere with that determination, even if the Tribunal considers that there may be a preferable MRP value[56].

Therefore, in light of the Tribunal's recent findings, Multinet is prepared to adopt the AER's MRP estimate of 6 per cent in this revised proposal, but only if a consistent measurement approach is adopted in relation to the risk free rate. As explained in the next section, an MRP of 6 per cent is a long term average and consistency requires that it must be matched with a long term average of the risk free rate.

In making this concession in relation to the MRP, Multinet does not resile from the compelling evidence that it submitted in its original proposal, in which four independent experts[57] provided analysis showing that the forward-looking MRP substantially exceeds 6 per cent.

This revised proposal includes updated 'spot' MRP analysis from SFG and CEG. SFG and CEG have also conducted an independent re-examination of Multinet's evidence in relation to the MRP, in light of the criticisms made by the AER and its consultants in the Draft Decision. Both of these independent expert reports, which are provided at Appendix 6-10 and Appendix 6-2, respectively, confirm that the evidence overwhelmingly supports a forward-looking MRP substantially in excess of 6 per cent.

Although Multinet is adopting an MRP of 6 per cent for the purposes of this revised proposal, we would welcome the AER's reconsideration of the MRP if it prefers to address the problems with its cost of equity estimate through the application of a more realistic 'spot' MRP estimate.

6.4 AER's interpretation of Rule 87 is in error

In section 4.2.1 of Attachment 4 to the Draft Decision, the AER states the following in relation to the operation of Rule 87 of the National Gas Rules:

[55] Application by Envestra Limited (No 2) [2012] ACompT 4 (11 January 2012) and Application by WA Gas Networks Pty Ltd (No 3) [2012] ACompT 12 (8 June 2012).

[56] Application by WA Gas Networks Pty Ltd (No 3) [2012] ACompT 12 (8 June 2012), paragraphs 105 to 108.

[57] SFG Consulting; CEG; NERA; and Capital Research Pty Ltd.

"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 the 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. (emphasis added)**

This interpretation is consistent with the Australian Competition Tribunal's (Tribunal) position in two recent decisions: The ATCO matter (formerly WA Gas Networks) and the DBNGP matter."

The AER's interpretation in the first two dot points above is consistent with the reasons of the Tribunal in *ATCO* and *DBNGP.*

However, the AER's view that "*those input parameters must reflect prevailing conditions in the market for funds and the risks involved in providing reference services"* is incorrect and inconsistent with the Tribunal's interpretation of Rule 87.

The Tribunal in both *ATCO* and *DBNGP* interprets the operation of Rule 87(1) and (2) as follows:

- Rule 87(1) describes the objective for determining the rate of return on capital, which objective is consistent with the national gas objective and the revenue and pricing principles. It provides no guidance as to how the objective is to be achieved.[58]
- Rule 87(2) serves the function of providing guidance as to how that objective is to be achieved, by prescribing the use of a well accepted approach and a well accepted financial model.[59] The Sharpe-Lintner CAPM is accepted to be such a well accepted financial model.[60]
- The inputs into the model are critical and rule 87(1), importantly, informs the appropriateness of the inputs.[61]
- The selection of the appropriate input parameters is a critical step to ensuring that the well accepted approach using a well accepted financial model produces an outcome which accords with the objective expressed in rule 87(1).[62]

Nowhere in the Tribunal's reasons in either decision does it find that the input parameters must reflect prevailing conditions in the market for funds and the risk involved in providing reference services.

[58] *ATCO* at [62].
[59] *ATCO* at [63]
[60] *ATCO* at [64]
[61] *ATCO* at [65]
[62] *ATCO* at [65] see also *DBGNP* paragraphs 82 to 87.

The Tribunal's reasons make it clear that in selecting the input parameters, regard must be had to whether the result arising from the input of that parameter meets the objective in rule 87(1). That is, the input parameters will only be "appropriate" if their combination produces a result which meets the rule 87(1) objective.

It does not mean, as the AER contends, that as long as the parameter it selects reflects prevailing conditions in the market for funds, it will produce a result consistent with rule 87(1). It is this interpretation of rule 87(1) and (2) that leads the AER into error in estimating the cost of equity. The AER's mechanical selection of estimates for the MRP, risk free rate and equity beta, without consideration of whether their combination produces a cost of equity estimate that meets the objective in rule 87(1), is inconsistent with the Tribunal's reasons and is in error.

6.5 AER's approach to the cost of equity is in error

This section explains that the AER has adopted an inconsistent approach to estimating the MRP and risk free rate and, as a consequence, has estimated a cost of equity that does not meet the requirements of the National Gas Law and Rules.

- Section 6.5.1 explains why consistency in measuring the MRP and risk free rate is essential.
- Section 6.5.2 provides compelling evidence which shows that the AER's MRP estimate is a long term historic average, not a forward-looking spot rate. As a long term historic average, it must be combined with a long term measure of the risk free rate.
- Section 6.5.3 notes that the experts, including the AER's advisor, Associate Professor Lally, regard the AER's MRP estimate as a long term historic average, not a forward looking 'spot' rate.

6.5.1 Why consistency matters

Multinet's original proposal explained the importance of adopting a consistent approach to estimating the MRP and the risk free rate. To understand the theory that underpins this proposition, it is instructive to examine the following comments from Professor Alan Gregory, a respected finance professor who has advised the UK Competition Commission on cost of capital issues:

> "At this point it is worth emphasising exactly what asset pricing theory tells us that the basic CAPM relationship is, in terms of deriving the expected return on any asset (R_i):
>
> $$Ri = RF + \beta i ERM - RF \qquad (1)$$
>
> The term in parentheses is often abbreviated to the "equity risk premium" or "market risk premium", but writing the equation out in its original form serves as a reminder that the precise definition of MRP is the expected return on the market (E[RM]) minus the risk free rate, RF. As Jenkinson (1993) points out, the important point is that there is only one RF term on the right hand side of the CAPM, not two.
>
> A very common error, which has been discussed in recent UK regulatory appeals, is to implicitly assume the two RF terms are different. An example would be where a current estimate of the

> risk free rate (say the yield on a government bond) is combined with an historically derived estimate of the MRP." [63]

As Professor Gregory explains, an inconsistent approach to estimating the MRP and risk free rate will incorrectly employ two different risk free rate estimates in the same equation. Professor Stephen Wright from the UK and Dr Tom Hird of CEG independently reach the same conclusion. All three expert opinions are provided as appendices.

As already noted, Multinet's original proposal explained that the AER's estimation process for the cost of equity is inconsistent because it combines:

- **Historic data** for the MRP over various periods from 1883 to the present day; and
- **Current spot market data** for the risk free rate.

In its Draft Decision, the AER claims that it has consistently applied 'forward-looking' estimates of the MRP and the risk free rate. The AER therefore argues that Multinet has mischaracterised the AER's approach:

> "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. 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. 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. Accordingly, both the risk free rate and the MRP are forward looking estimates, although estimated using different types of data." [64]

In sections 6.5.2 and 6.5.3 (below), Multinet provides compelling evidence that the AER's estimate of the MRP is not genuinely forward looking. Before turning to this evidence, however, it is important to highlight a further matter raised by CEG that identifies another inconsistency in the AER's approach.

CEG explains that the AER regards the spot risk free rate as an appropriate 'long term estimate' as it relates to the yield on 10 year CGS. In contrast, however, the AER regards a 'spot' estimate of the MRP as inherently short-term and therefore not appropriate for the purpose of estimating the MRP over a 10 year horizon, despite the fact that equity investment typically has a much longer time horizon than 10 years.

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[63] Professor Alan Gregory, The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, paragraphs 11 to 13.

[64] AER, Draft Decision, Part 2, page 96.

The AER therefore approaches the task of estimating the MRP by considering how the 'spot' MRP may change over the 10 year time horizon. However, the same approach is not adopted in relation to the risk free rate. For the risk free rate, the AER believes that the 'spot rate' is the appropriate measure. In reaching this conclusion, the AER does not consider whether the spot risk free rate – which is at its lowest level since Federation – has a reasonable prospect of persisting at this level over the next 10 years.

CEG therefore explains that the AER is mixing two alternative methods in applying the CAPM to estimate the cost of equity:

1. Adopt 'spot estimates' of the risk free rate and MRP; and

2. Adopt long-term averages of the risk free rate and MRP.

UK professors Alan Gregory and Stephen Wright, and Dr Tom Hird of CEG each explain that the AER makes an error by combining the 'spot' risk free rate from method 1 and the long-term average MRP from method 2. This error produces a cost of equity that is manifestly too low and inconsistent with the requirements of the NGR and NGL.

Multinet's view is that either method 1 or method 2 should be adopted to ensure consistency. The importance of consistency is recognised by the AER, but it is not reflected in the AER's approach. The AER seeks to establish consistency by claiming that the MRP is estimated 'as close as possible' to the commencement of the regulatory period. The AER adopts this language in relation to the MRP because it describes an approach which is consistent with the measurement approach adopted in relation to the risk free rate.

In reality, however, the AER approaches the tasks of estimating the MRP and risk free rate differently. In particular, the AER updates the 'spot' risk free rate at a date close to the publication of the Final Decision, but it does not update the MRP. This is because the MRP is measured on a fundamentally different and inconsistent basis to the risk free rate, as explained by CEG.

The AER's criticism that Multinet is attempting to address a problem with the MRP estimate by adjusting the risk free rate mischaracterises our position, which is supported by several independent experts. Multinet's approach ensures consistency between the methods employed to estimate the MRP and risk free rate. IPART recognised the importance of adopting a consistent measurement approach for each of these two parameters in its determination for the Sydney Desalination Plant[65]:

> "As noted in section 9.4.1, we recognise stakeholders' concerns about the inconsistency in using short term data in estimating some parameters and long term data in estimating others. We also recognise there is considerable uncertainty over the market risk premium, due to recent market instability. These factors influenced our decision to set SDP's WACC towards the top of the possible range, and we are satisfied that this decision adequately addresses stakeholders' concerns."

The AER's claim that its estimates of the MRP and risk free rate are consistent is not supported by IPART's comments.

[65] IPART, Review of water prices for Sydney Desalination Plant Pty Limited, December 2011, page 91.

For the avoidance of doubt, Multinet is open to the AER adopting a genuine 'spot' estimate for the MRP and combining it with the 'spot' rate for the risk free rate. However, the AER's approach has not adopted a consistent 'spot' estimate for each parameter.

The next section demonstrates that the AER's estimate of the MRP is based on historic data. The principle of consistency requires that the adoption of the AER's 6 per cent estimate for the MRP should be accompanied by a 'long term average' for the risk free rate. The evidence presented below strongly contradicts the AER's claim that its estimates for the MRP and risk free rate estimates are consistent.

6.5.2 AER's MRP estimate is a long term historic average

As already noted, the AER seeks to characterise the MRP as being "estimated as close as practical to the beginning of the period". The purpose of this characterisation is to claim that the estimates adopted for the MRP and the risk free rate are consistent. However, as shown below, this claim is not supported by the facts.

The AER relies on survey data and historic estimates of market returns to establish its MRP estimate. The relevant survey data is set out in the table below. It shows that the most recent survey referred to by the AER was published in July 2011, some 14 months prior to the Draft Decision. The KPMG survey, which is referred to by the AER, is dated 2005.

Table 6-2: Key findings of MRP surveys

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

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

Contrary to the AER's position, it is not credible to argue that the survey data is "as close as practical to the beginning of the period, and reflects expectations over the 10 year investment horizon". Survey data from 2005 cannot support the AER's contention that its MRP estimate is genuinely forward-looking, because it does not reflect today's market conditions. The survey results reflect a period when the risk free rate was substantially higher than the current spot rate. As already noted, combining today's low spot rate with MRP survey data from 2005 is manifestly inconsistent.

The AER's claim that the MRP is "measured as close practical to the beginning of the period" is also inconsistent with the remarkable stability in its regulatory decisions since the commencement of energy network regulation in Australia. It is commonly accepted by academics and practitioners that the MRP varies over time. However, the same cannot be said of the AER's estimates or those of its predecessor, the ACCC, as shown in the table below.

Table 6-3: ACCC and AER MRP decisions for regulated energy networks over the period from 1998 to the present

Date	Final decision	MRP adopted
Oct 1998	Transmission Pipelines Australia (GasNet)	6 per cent
Jan 2000	NSW and ACT Transmission Network Revenue Caps	6 per cent
Jun 2000	Central West Pipeline	6 per cent
Feb 2001	Snowy Mountains Hydro-Electric Authority Transmission	6 per cent
Sep 2001	Moomba to Adelaide Pipeline	6 per cent
Nov 2001	Queensland Transmission Network Revenue Cap	6 per cent
Nov 2002	GasNet Australia	6 per cent
Dec 2002	Amadeus Basin to Darwin Pipeline	6 per cent
Dec 2002	Victorian Transmission Network Revenue Caps	6 per cent
Dec 2002	South Australian Transmission Network Revenue Cap	6 per cent
Oct 2003	Moomba to Sydney Pipeline	6 per cent
Oct 2003	Murraylink Transmission Network Revenue Cap	6 per cent
Dec 2003	Tasmanian Transmission Network Revenue Cap	6 per cent
Apr 2005	EnergyAustralia Transmission Network Revenue Cap	6 per cent
Apr 2005	TransGrid Transmission Network Revenue Cap	6 per cent
Mar 2006	DirectLink Transmission Network Revenue Cap	6 per cent
June 2007	Queensland Transmission Network Revenue Cap	6 per cent
Aug 2007	Dawson Valley Pipeline	6 per cent
Jan 2008	SP AusNet transmission determination	6 per cent
Apr 2008	GasNet Australia	6 per cent
Apr 2008	ElectraNet transmission determination	6 per cent
Apr 2009	TransGrid Transmission Determination	6 per cent
Apr 2009	Transend Transmission Determination	6 per cent
Apr 2009	ACTEW AGL Electricity Distribution	6 per cent
Apr 2009	New South Wales distribution determination	6 per cent
Mar 2010	ACTEW AGL ACT, Queanbeyan & Palerang gas distribution	6.5 per cent
Mar 2010	Wagga Wagga natural gas distribution network	6.5 per cent
May 2010	Queensland distribution determination	6.5 per cent
May 2010	South Australia distribution determination	6.5 per cent
June 2010	Jemena Gas Networks NSW	6.5 per cent
Oct 2010	Victorian DNSPs - CitiPower, Powercor and UE	6.5 per cent
Oct 2010	Victorian DNSPs -SP AusNet	6.5 per cent
Oct 2010	Victorian DNSPs - Jemena Electricity Networks	6.5 per cent
Jun 2011	Envestra gas distribution SA and Qld	6 per cent
Jun 2011	APT Allgas Qld gas distribution	6 per cent
Jul 2011	Amadeus Gas Pipeline (NT)	6 per cent
Apr 2012	Aurora Energy	6 per cent
Apr 2012	Powerlink Transmission	n/a[66]

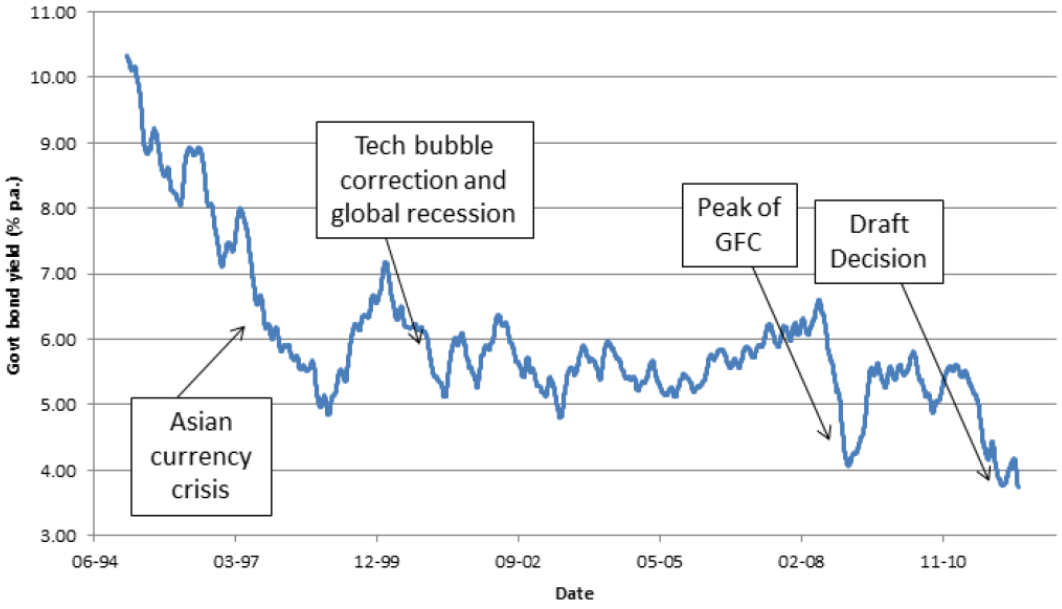
[66] Under clause 6A.6.2(h) of the NER, the AER must use the MRP value set out in the Statement of the Revised WACC Parameters published by the AER in May 2009, for as long as that Statement remains in force. Under the current NER, the May 2009 Statement

Date	Final decision	MRP adopted
Aug 2012	Roma to Brisbane Pipeline	6 per cent
Sep 2012	DRAFT DECISION - Multinet Gas Distribution	6 per cent

It is evident from the above table that, apart from a brief (8 month) period between March and October 2010 in which the MRP was increased to 6.5 per cent, the AER and ACCC decisions on the MRP have been fixed at 6 per cent for the past 14 years.

It is instructive to compare the AER's practically fixed view of the MRP with the volatile nature of the spot risk free rate. The figure below shows the yield on 10 year GCS since 1994. It is noted that data in the earlier years (showing comparatively high nominal yields) reflects the higher inflationary expectations that remained in the period immediately after the Reserve Bank acquired its role in managing inflation. The key issue, however, is that the risk free rate is subject to short-term volatility and is currently at an all-time low.

Figure 6-1: 10-year government bond yields since mid 1994



Source: Reserve Bank of Australia.

The stability of the AER's 6 per cent MRP estimate contrasts with the volatility in the spot risk free rate. It is inconceivable that the 'spot' MRP does not also vary over time. The fixed nature of the ACCC and AER estimate of the MRP simply reflects the fact that it is derived from a long historic data series, which dates back to the 1880s. It is indicative of an approach that is not genuinely forward-

is due to remain in force until 2014. The May 2009 Statement mandates the adoption of an MRP value of 6.5 per cent in all electricity transmission revenue determinations.

looking. It cannot be regarded as a spot estimate of the MRP, which is the only measure that should be combined with the spot risk free rate.

As shown in the table above, the origin of the 6 per cent MRP can be traced back to early ACCC decisions. Statements made by the ACCC highlighted that these estimates were in fact based on historic data. While the ACCC acknowledged that MRP is "in theory" a forward-looking concept, there is little doubt that it is derived from historic data. In particular, in its Draft Statement of Regulatory Principles in May 1999, the ACCC stated:

> "Theoretically the market risk premium is an ex-ante premium based on a forward view of the market. However, for practical reasons much of the analysis of its value has relied on the premium historically achieved, as a proxy measure." [67]

In its Final Decision for the Moomba to Sydney gas pipeline in October 2003, the ACCC also noted the importance of historic returns in its estimating approach:

> "Theoretically the market risk premium is an ex ante premium, however, for practical purposes historic data has typically been used as a proxy measure." [68]

In its Final Decision for Transend Networks in December 2003, the ACCC made a similar statement:

> "Multiplying WACC by the RAB to determine the return on capital for a regulated business is a forward-looking concept. However, estimates of the future cost of equity are not readily available. Practical applications of the CAPM therefore rely on the analysis of historic returns to equity to estimate the MRP." [69]

The AER's conclusions in its Final Decision on the Statement of Regulatory Intent on Revised WACC Parameters similarly emphasise the primary weight given to historic data. It is also worth noting that the following AER statement [emphasis added] was made at the conclusion of the most recent and most comprehensive industry-wide review of the WACC:[70]

> "Rather than placing sole weight on any particular measure of the MRP, it is common practice to have regard to each measure, tempered by an understanding of the strengths and weaknesses of each measure, in determining a 'final' MRP. The AER considers this is an appropriate approach in the context of having had regard to the need for persuasive evidence, and is consistent with past regulatory practice. **Following this approach leads the AER to place primary weight on long term historical estimates of the MRP**, though also placing some weight on other measures such as cash flow based estimates and surveys.
>
> The most recent long term historical average excess returns … fall close to 6 per cent."

The AER went on to conclude:[71]

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[67] ACCC, draft Statement of Regulatory Principles, May 1999, page 78.

[68] ACCC, Final Decision, Moomba to Sydney Pipeline System Access Arrangement, October 2003, page 124.

[69] ACCC, Tasmanian Transmission Network Revenue Cap 2004–2008/09, Decision, December 2003, page 82

[70] AER, *Final Decision: Electricity transmission and distribution network service providers - Review of the WACC parameters* May 2009, p. 236.

[71] Ibid, p 237.

> "Consistent with past regulatory practice, the AER considers that primary weight should continue to be placed on long term historical estimates of the MRP."

At the same time, the AER acknowledged this was the long-established practice of Australian regulators, and that "in the interests of regulatory certainty and stability, and placing primary weight on long term historical estimates, regulators consistently maintained a MRP of 6 per cent".[72]

The fact is that the long-established regulatory practice in Australia is to adopt an MRP estimate of 6 per cent, based on long-term historic data. For the AER to claim that the forward-looking estimate has been undertaken "as close as practically possible to the commencement of the regulatory period" implies that the AER is constantly fine-tuning and updating its assessment. The reality, however, is quite the contrary – the AER's focus remains on historic data.

6.5.3 Experts agree that an MRP of 6 per cent is an historic average

Professor Gregory's description of the AER's approach explains that the AER has combined historic estimates of the MRP and the 'spot' risk free rate:

> "At 2.3.1 the AER makes clear that its chosen estimate for RF [risk free rate] is an average of 10 year CGS yields for the period 25th June to 20th July 2012. To consistently apply the CAPM it should, therefore, have used an estimate of the expected RM [return to the equity market] on a reasonable basis, and subtracted from that the same average of 10 year CGS yields. The evidence in 2.3.2 suggests that they have not done so. Table 2.2 shows estimates of the historically derived MRP. For the reasons set out above, whilst it would have been correct to use these historical data series to measure RM directly, it is not valid to take an MRP from this series and match it with an RF derived from forward looking data." [73]

The AER's consultant, Associate Professor Lally, has also acknowledged that the AER's MRP estimate is based on historic data and survey evidence, and does not adequately consider forward-looking methodologies including the Dividend Growth Model (DGM) and other evidence:

> "In addition, whilst the AER gives primary weight to historical averaging of excess returns and survey results in estimating the forward-looking MRP, I consider that the AER should give consideration or additional weight to a number of other methods including the Siegel approach, the DGM, and results from a range of other markets. In addition, if historical average returns are used, they should be arithmetic rather than geometric averages."[74]

In light of Associate Professor Lally's comments alone, it must be concluded that the AER has not in fact adopted a forward-looking estimate of the MRP "as close as possible" to the commencement of the regulatory period. If it had done so, the AER would have looked at other models suggested by Associate Professor Lally. In addition, if the MRP estimate were in fact genuinely forward looking, the MRP would have shown some variation across the 40 regulatory decisions since 1998. However, there has been practically no variation in the MRP values adopted.

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[72] Ibid, p. 237.

[73] Professor Alan Gregory, The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, paragraph 2.19.

[74] Associate Professor Lally, The Cost of Equity and the Market Risk Premium, 25 July 2012, page 32.

There is no doubt that the AER's estimate of the MRP is a long term average. It must, therefore, be combined with an estimate of the risk free rate which is also a long term average. Unless this approach is adopted, the AER's methodology for estimating the cost of equity will be flawed, as explained by Professor Alan Gregory and Professor Stephen Wright. This observation is not simply a theoretical or methodological complaint - it has implications for the AER's cost of equity estimate. The next section shows that the application of the AER's methodology for estimating the cost of equity produces an estimate that is not commensurate with the prevailing conditions in the market for funds and, therefore, does not satisfy the NGR and NGL.

6.6 The AER's cost of equity estimate is in error

This section provides compelling evidence that the AER's estimate of the cost of equity is in error. It is structured as follows:

- Section 6.6.1 summarises CEG's findings in updating its March 2012 report, which accompanied Multinet's original proposal.
- Section 6.6.2 provides evidence that the 'spot' MRP exceeds 6 per cent.
- Section 6.6.3 summarises the findings of Ernst & Young's review of independent valuation reports since 2008.
- Section 6.6.4 presents statements from a number of investors and fund managers which outline their concerns that the AER's cost of equity estimates are unprecedentedly low, and do not accord with capital market expectations.
- Section 6.6.5 sets out the key findings of independent expert reports in relation to UK and US regulatory practice.
- Section 6.6.6 summarises SFG's findings that the AER's reasonableness checks are irrelevant and do not support its estimated cost of equity.
- Section 6.6.7 examines the AER's reliance on the "present value principle" in adopting the current (unprecedentedly low) long term Government bond yield as a proxy for the risk free rate.
- Section 6.6.8 explains that the AER's estimate of the cost of equity is inconsistent with the NGR and NGL.
- Section 6.6.9 presents a summary of key findings regarding the errors in the AER's estimate of the cost of equity.

6.6.1 CEG's updated report shows AER error

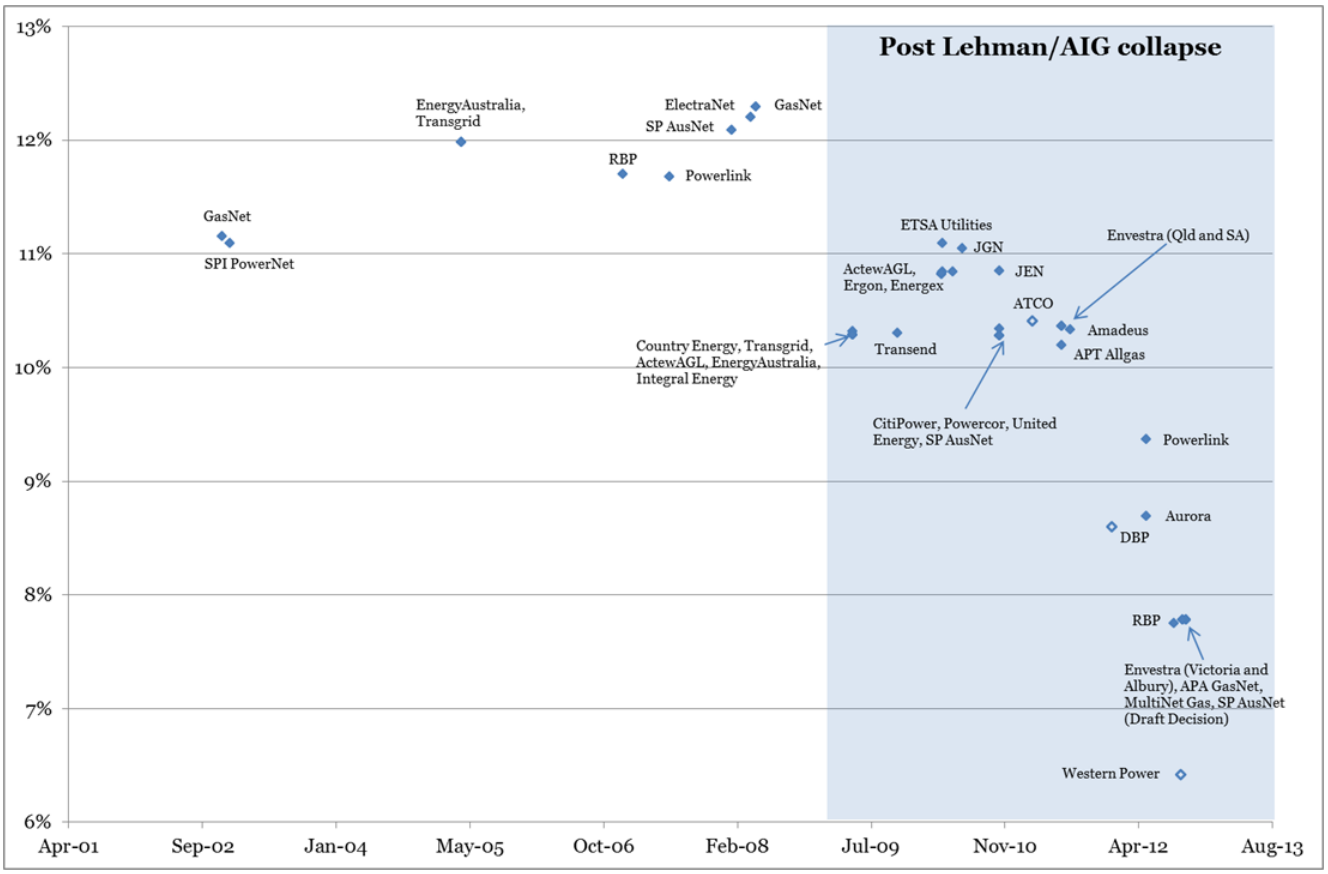
Multinet's March 2012 proposal explained that in estimating the cost of equity using the CAPM, it has become standard practice in the AER's regulatory decisions to combine:

- an estimate of the MRP which is substantially based on historic data averaged over various periods from 1883 to the present day; and

- a current-day estimate of the risk free rate, typically based on observed yields on 10 year Government bonds over 15 or 20 trading days immediately prior to the decision.

Under conditions of normally functioning capital markets, the AER's standard approach would generally result in reasonable estimates of the cost of equity. However, we cannot rely on normal conditions persisting and, therefore, the AER's standard regulatory approach will only produce by chance a cost of equity that is consistent with Rule 87(1). Furthermore, the current market conditions are far from normal. As shown in the figure below, the AER's approach is producing cost of equity estimates that have dropped sharply in recent months, contrary to experience in the real-world capital markets. We will return to capital market evidence shortly.

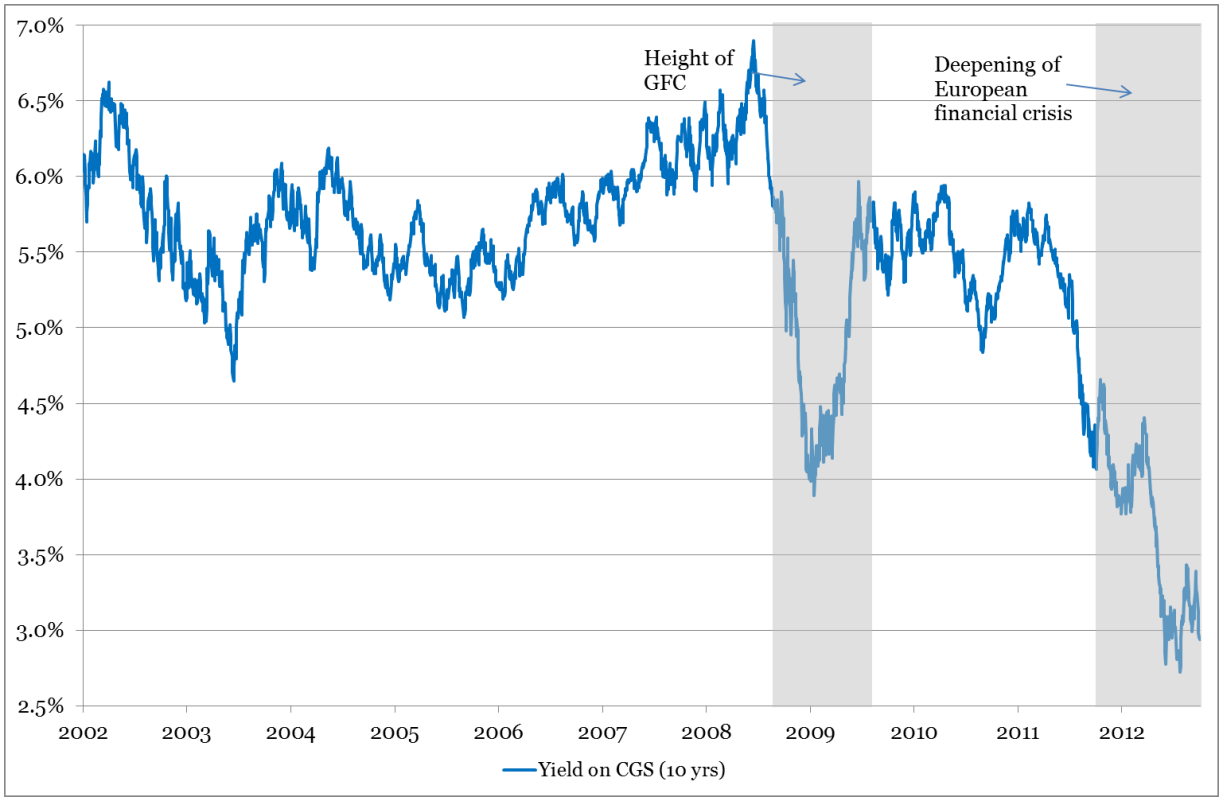
Figure 6-2: Cost of equity decisions for regulated energy businesses



Source: CEG

The reduction in the AER's estimate of the cost of equity is due to the fall in Australian government ten year bond yields (the spot risk free rate) since the onset of the GFC and the deepening of the European sovereign debt crisis, as show in the figure below. The risk free rate is now at historically low levels, reflecting a flight to quality as investors sell risky assets and buy AAA-rated government debt.

Figure 6-3: Time series for yields on ten year CGS

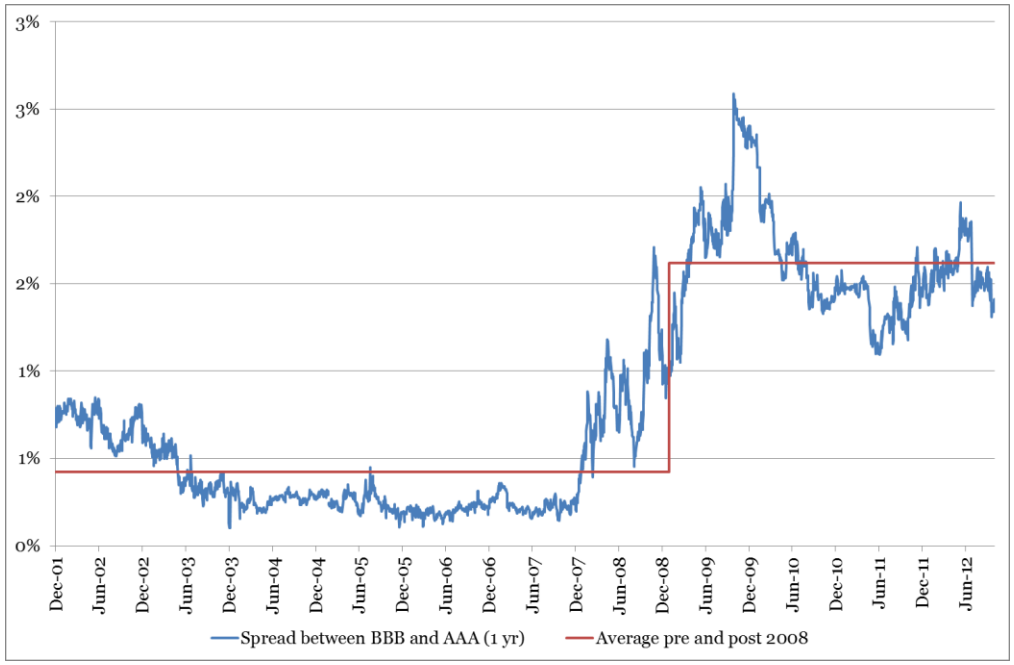


Source: CEG

The AER's mechanistic application of the CAPM - using a market risk premium derived from a long series of historic data, and a spot rate risk free rate - leads it to produce cost of equity estimates that are demonstrably inconsistent with the prevailing conditions in the market for funds. It is erroneous to believe that the reduction in the yield on 10 year CGS – which is driven by increased investor uncertainty and risk aversion – should not affect the MRP.

Dr Hird of CEG explains that it is common practice to use spreads between low risk assets and BBB rated bonds as a proxy for the level of investor uncertainty and risk aversion. In this regard, it is instructive that the spread between Standard & Poor's AAA and BBB rated bonds with one year to maturity (shown in the figure below) continues to exhibit elevated levels. This is indicative of greater levels of uncertainty and risk aversion, and is wholly inconsistent with the AER's view that the cost of equity has fallen over the same period because the MRP remains unchanged from its long term average.

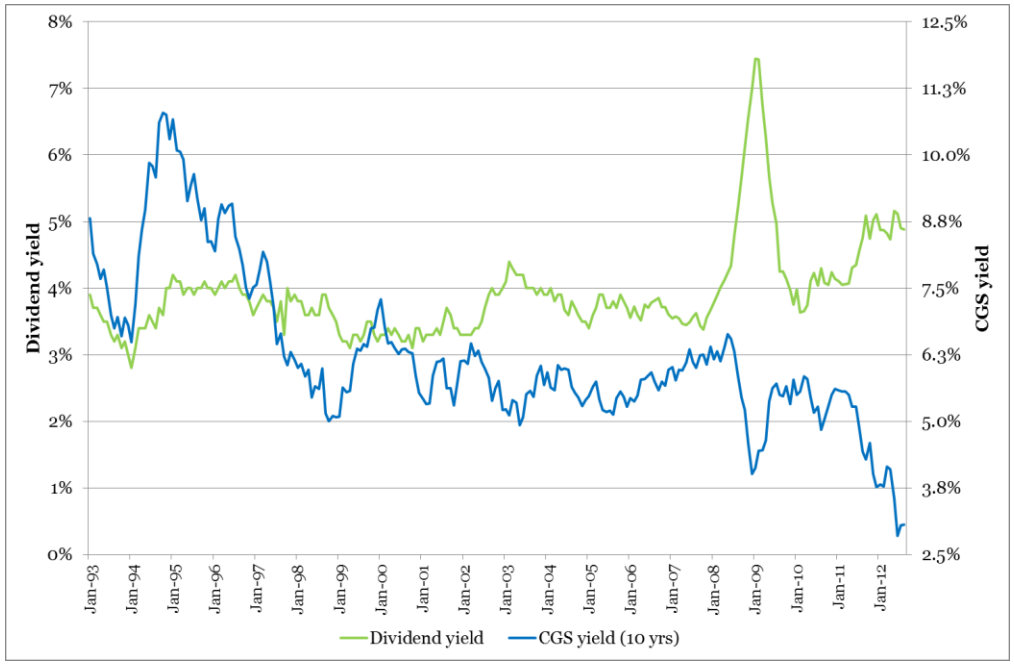
Figure 6-4: Spreads between AAA and BBB benchmark bonds at 1 year to maturity



Source: Bloomberg, CEG analysis

Dr Hird also explained that it is common practice to use equity dividend yields as a proxy for prevailing levels of uncertainty and risk aversion. The figure below shows that dividend yields have increased since 2009, reflecting increased uncertainty and risk aversion, as the yield on CGS has fallen. The data is totally inconsistent with the AER's view that the cost of equity has fallen dramatically since 2008.

Figure 6-5: Dividend yield on ASX versus 10 year CGS yields



Source: RBA, CEG analysis

Dr Hird concludes his report as follows:

> "Consistent with my March 2012 report, there is persistent and unambiguous evidence that risk premiums in the market for funds have risen to offset the recent fall in CGS yields. The effect of this is that the prevailing cost of equity is at least as high as under normal market conditions – notwithstanding that the CGS yields are at historic lows. In these circumstances, it would be an error to estimate the cost of equity using prevailing CGS yields in combination with a historical average estimate of the market risk premium."[75]

Furthermore, Dr Hird concludes that the AER's estimate of the cost of equity is approximately 200 basis points below the level that could be established using alternative, valid estimation methods. This substantial difference, together with the other evidence presented in this submission, demonstrates that the AER's cost of equity estimate is not credible and does not comply with the NGR and NGL requirements.

6.6.2 The 'spot' MRP exceeds 6 per cent

Multinet's original proposal included a wide range of evidence on the 'spot' MRP and the forward looking cost of equity. The evidence included expert analysis from CEG, discussed above, in addition to the following reports:

- NERA (2012b), *Prevailing Conditions and the Market Risk Premium,* a report prepared for APA Group, Envestra, Multinet & SP AusNet, prepared by NERA Economic Consulting, 15th March 2012.
- SFG (2012c), *Review of NERA regime-switching framework*, a report prepared for APA Group, Envestra, Multinet Gas, and SP AusNet by SFG Consulting, Strategic Finance Group, 25th March 2012.
- Capital Research (2012b), *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.

Multinet notes that the AER and its consultants have made a number of criticisms of these independent expert reports. Multinet has asked SFG Consulting to respond to the points raised, and its expert opinion is provided as an attachment to this revised proposal. In light of SFG Consulting's comments, Multinet continues to rely on these reports in this submission. Multinet recognises that *any* estimate of the cost of equity is open to criticism because estimating an unobservable parameter – such as the cost of equity – is bound to be imperfect. The task, therefore, is to make a reasonable judgment based on the available evidence. The above reports provide compelling evidence that the 'spot' MRP exceeds the 6 per cent estimated by the AER.

In addition to the above reports, CEG has updated its estimate of the MRP using the DGM. CEG estimates a prevailing market cost of equity at 11.94 per cent and MRP at 8.89 per cent[76]. This is based on the AMP method using end September 2012 dividend yields from the RBA, long run

[75] CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 95.

[76] Ibid, p. 31

dividend growth of 6.6 per cent nominal and an assumption that each dollar of dividend delivered to investors comes with 11.125 cents value of franking credits. Assuming a beta of 0.8 and risk free rate of 3.05 per cent as at 30 September 2012 this gives a cost of equity for the reference services of 10.16 per cent. This estimate is slightly lower than CEG's March 2012 cost of equity estimate of 10.58 per cent.

Multinet regards the CEG evidence as supporting our view that the 'spot' MRP remains well in excess of 6 per cent and the AER's cost of equity estimate is manifestly too low.

6.6.3 Ernst & Young's market review shows AER error

Ernst & Young was engaged by Multinet and the other Victorian gas network companies to prepare an expert report which sets out Ernst & Young's opinion as to:

- the best market evidence available to assess the prevailing cost of equity in the market for funds in Australia;
- the estimated prevailing cost of equity that can be drawn from that evidence;
- whether the cost of equity estimated by the AER in the Draft Decision meets the requirement of rule 87(1); and
- whether the cost of equity proposed by Multinet in response to the AER's Draft Decision meets the requirement of rule 87(1).

The Ernst & Young report is attached at Appendix 6-1.

Ernst & Young has examined all of the expert reports that were issued (based on the date of the expert report) between 1 January 2008 and 10 October 2012. The Ernst & Young report ascertains the cost of equity estimates provided by independent experts. The independent experts have legal and reputational responsibilities to ensure that their estimates of the cost of equity are reasonable. Market transactions – including company acquisitions – have been based on these independent expert reports. The reports therefore provide compelling evidence of the cost of equity in the real world.

In total Ernst & Young examined 132 independent expert reports. The table below shows the average market cost of equity estimates over the period from 1 January 2008 to 10 October 2012 compiled from the independent expert reports. The table also shows the AER's equivalent market cost of equity estimates. For the period 2008-2011, the AER average reflects the AER decisions over that period. For 2012, the AER average has been calculated by Ernst & Young by applying the AER methodology as at the date of each expert report.

Table 6-4: Comparison of AER market cost of equity estimates with Independent Valuations

Year	Average cost of equity - market	Average cost of equity - AER	Difference

Year	Average cost of equity - market	Average cost of equity - AER	Difference
2008	12.0%	12.2%	0.2%
2009[77]	11.8%	11.4%	-0.4%
2010	11.7%	12.1%	0.4%
2011	11.1%	11.5%	0.4%
2012	10.7%	9.5%	-1.2%

It must be reiterated that the market cost of equity adopted by the AER for the Victorian gas companies is 8.98 per cent, which is even lower than the AER average for 2012.

The following observations can be drawn from the above table.

- Independent experts estimate an average cost of equity for the ten months to October 2012 of 10.7 per cent, which is approximately 130 basis points below the equivalent estimate in 2008. The equivalent reduction in the AER's market cost of equity decisions over the same period is a reduction of 270 basis. The AER's reduction is therefore 140 basis points more than the average of estimates contained in independent experts reports.

- For the ten months to October 2012, the AER's average market cost of equity estimate is 120 basis points lower than average estimate provided by independent experts.

- For the Victorian gas businesses, the AER's market cost of equity estimate (for a beta of 1) is approximately 170 basis points lower than the than average estimate of the market cost of equity provided by independent experts for the ten months to October 2012.

- Independent experts estimate an average cost of equity of 11.4 per cent for the period from 1 January 2008 to 10 October 2012.

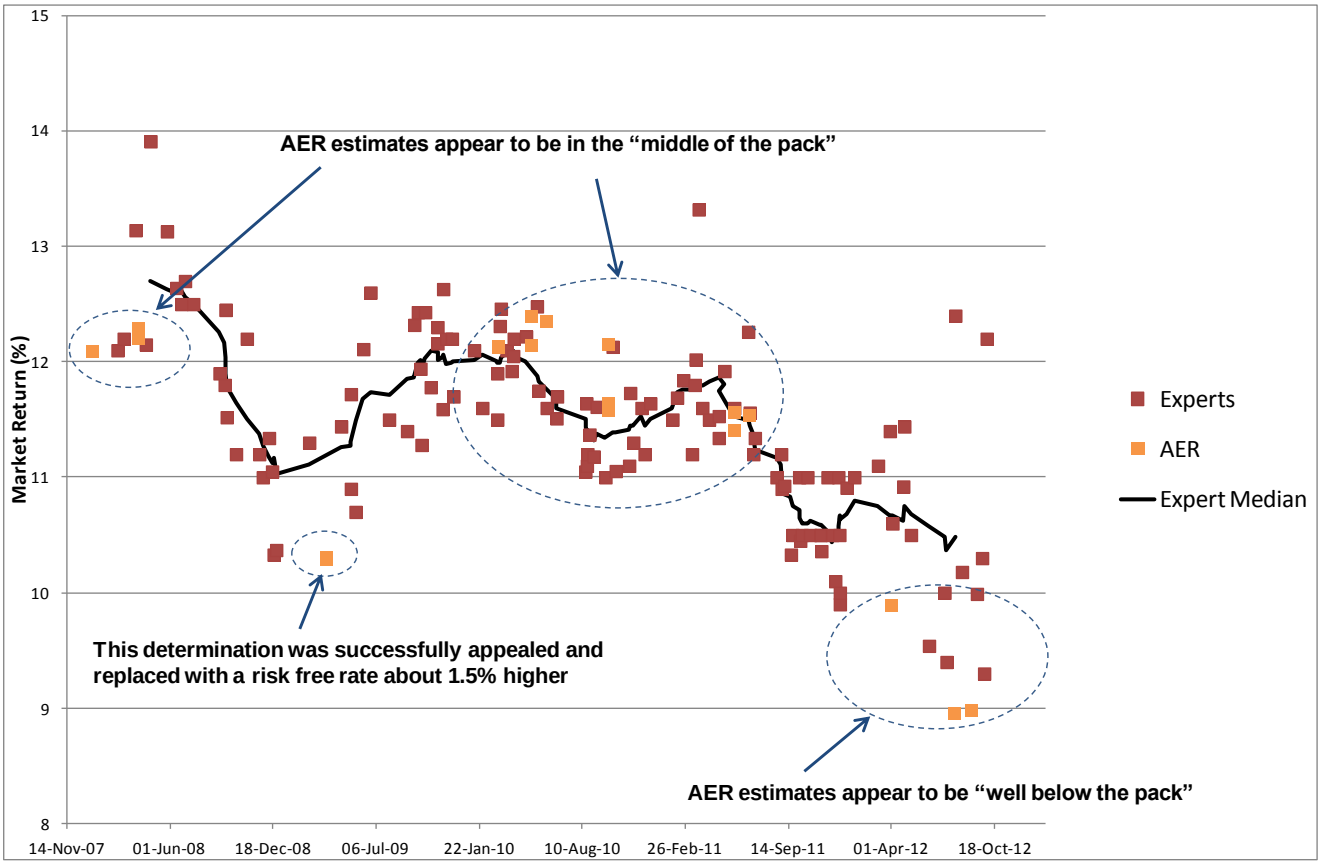
As noted in the Ernst & Young report the gap between the AER's cost of equity and the independent experts' assessment widens if the value of imputation credits is taken into account. Specifically, Ernst & Young states that in relation to 2012 data, when the value of imputation credits is taken into account the difference between the AER's cost of equity and the prevailing market cost of equity implied by independent experts is 2.2 per cent. Therefore, the AER's estimate of the cost of equity is inconsistent with the market evidence provided by the independent expert reports and the prevailing conditions in the market for equity funds.

The figure below provides a more detailed analysis of the market cost of equity adopted by the independent experts and the AER from January 2008 to October 2012. It shows that the AER's most recent estimates of the cost of equity are well below the average of the recent estimates produced by independent experts. However, it also illustrates that the AER's earlier cost of equity estimates tended to exceed those of independent experts. Multinet regards these earlier AER decisions as consistent the requirements of the NGL, which requires the AER to ensure that network service providers are able to recover at least their efficient costs. In addition, the Revenue and Pricing

[77] The AER market cost of equity estimates in this year reflect the AER's final decisions as adjusted by the Australian Competition Tribunal.

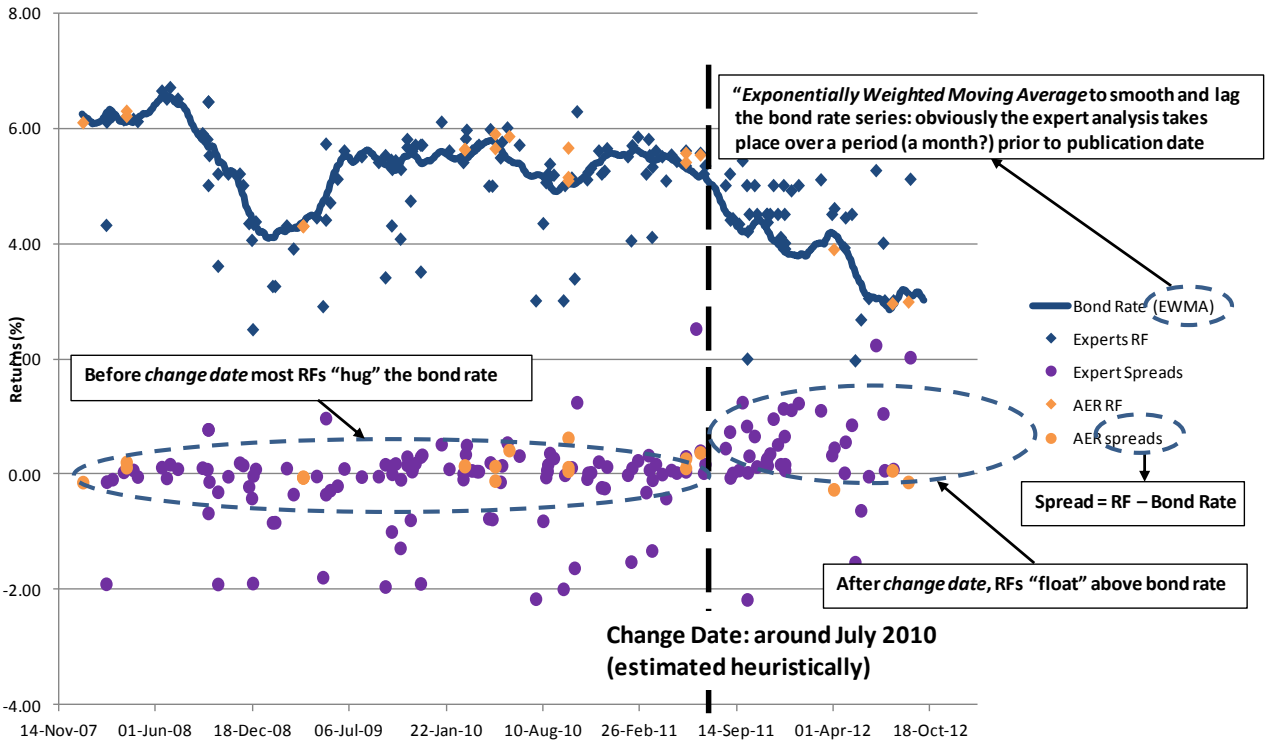
Principles require the AER to consider the consequences of under-investment if the cost of capital is under-estimated.

Figure 6-6: Analysis of estimates from Independent Experts and AER



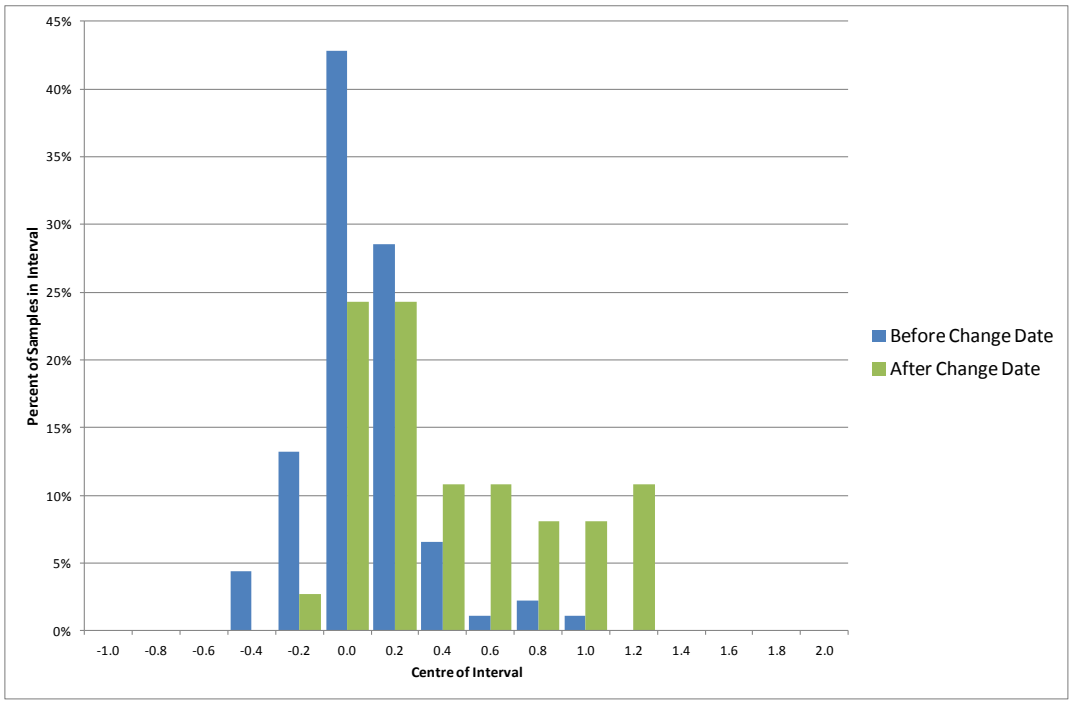
The Ernst & Young data also provides some useful insights regarding Independent Experts approach to the risk free rate. The figure below shows the spread between their estimated risk free rate and the yield on CGS.

Figure 6-7: Comparison of RF and 10-year bond rate



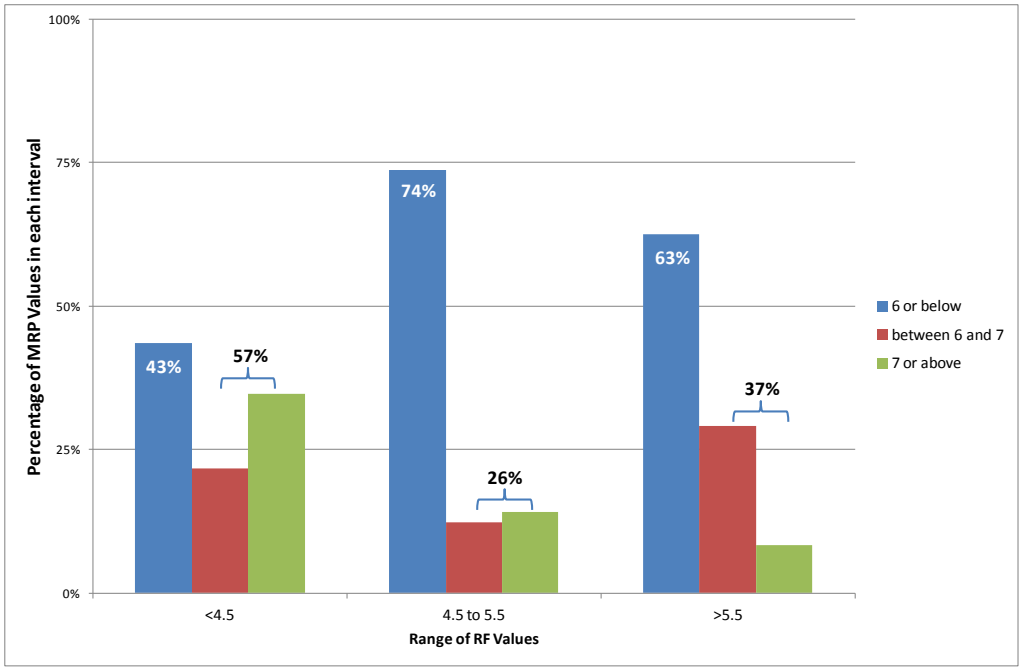
Contrary to the AER's Draft Decision, independent experts have amended their approach to estimating the risk free rate in response to the dramatic reduction in the yield on 10 year CGS. This change can be observed in the histogram below. It shows that prior to July 2011, the spread between independent experts' estimates of the risk free rate and the yield on 10 year CGS (shown as the 'old' histogram in blue) is centred around zero and forms a bell-shaped distribution. This strongly suggests that prior to July 2011, independent experts typically adopted a risk free rate that was closely aligned with the yield on 10 year CGS. However, the 'new' histogram shown in green indicates that after July 2011 independent experts are typically adopting a risk free rate that exceeds the yield on 10 year CGS. These observations provide a powerful indication that the AER's current estimation process – which is unchanged in response to the decline in the yield on CGS – is materially out-of-step with market practice.

Figure 6-8: Histogram of spreads between risk free rate and 10 year bond yield: before and after July 2010



The final important finding from the Ernst & Young study is that independent experts have tended to increase their estimates of the MRP in response to the reduction in the estimated risk free rate. The AER has expressed its view that the MRP and risk free rate are not negatively correlated. However, the evidence from independent experts contradicts the AER's views. It is a matter of fact that independent experts typically adopt higher MRP estimates when the risk free rate is below 4.5 per cent, as shown in the histogram below.

Figure 6-9: Histogram of MRP against risk free rate



The above figure shows that the majority (57 per cent) of independent expert reports adopt an MRP above 6 per cent when the risk free rate is less than 4.5 per cent. For risk free rates that are closer to the long term average, the percentage of independent expert reports adopting an MRP of 6 per cent increase to approximately 74 per cent. In other words, the independent expert reports provide evidence that the MRP and risk free rate are negatively correlated. Although this is not a formal statistical test, our analysis suggests that the probability of this effect occurring by chance is less than 2 per cent.

Professor Stephen Wright's independent expert report explains why the MRP and risk free rate are likely to be negatively correlated. He states that there is an increasing body of academic research and significant indirect evidence, noting that the MRP cannot be observed directly. It is noteworthy, therefore, that Ernst & Young's compilation of independent expert reports provides further support for this phenomenon.

Contrary to the above evidence, however, the AER continues to apply a constant MRP even as the risk free rate reaches new historical lows. This evidence makes it plain why the AER's approach produces a cost of equity that is below the prevailing conditions in the market for funds, contrary to rule 87(1).

In summary, the market evidence from the independent experts' valuation reports contradicts the AER's conclusions in its Draft Decision. The evidence strongly suggests that the AER's cost of equity estimate is too low. This market evidence is consistent with the expert opinions of Professor Alan Gregory and Professor Stephen Wright from the UK, which is discussed shortly. Furthermore, it is consistent with the analysis provided by CEG and SFG, as well as IPART's view (discussed further in section 6.7 below) that it is necessary for regulators to adopt appropriate approaches to estimating the risk free rate and MRP, given the current market conditions.

6.6.4 Evidence from investors and fund managers suggests AER error

In a recent submission to the AEMC, the Financial Investor Group[78] stated:

> "Recent regulatory decisions have employed an overly mechanistic approach to the NGR provisions. The mechanical application of these provisions has produced cost of equity estimates that are unprecedentedly low, and which do not accord with capital market expectations."

The Financial Investor Group is an affiliation of the major investors in Australian energy network assets. Members[79] have interests in well over $30 billion of Australian energy network assets, most of which are regulated. This is a substantial proportion of Australia's privately owned energy network assets, and about 40 per cent of those subject to economic regulation.

The Financial Investor Group's submission drew the attention of the Commission to various statements made by professional investors and fund managers, which outline the concerns of the investment community in relation to the regulators' recent cost of capital decisions.

[78] Financial Investor Group, Submission to AEMC Draft Determination on the economic regulation of network services, 4 October 2012.

[79] Members include, APA Group, ATCO Gas, Cheung Kong Infrastructure, DUET Group, Envestra, Hastings Funds Management, Power Assets Holdings Ltd, Singapore Power, and Spark Infrastructure.

The first statement was prepared by Matthew Riordan and John Lake, portfolio managers at Paradice Investment Management Pty Ltd[80]:

> "Paradice Investment Management is an Australian based Fund Manager that oversees investment worth $6.9 billion. The bulk of this money is invested within Australian Equities.
>
> Within the Australian market we have a large number of companies to invest in that are exposed to many sectors and geographies. All of these companies and sectors are ultimately competing against each other for our marginal investment dollar. The Utilities sector is quite minor in the market, representing only 1.8 per cent of our investment universe. As a house we currently hold an overweight position within the Utilities sector. This is a function of the earnings and yield certainty that these assets are expected to provide in what is a very uncertain time within the equities market.
>
> We have some concerns over the proposed draft rule changes and their potential implications for the sector. Our main concern is that there is insufficient consideration being given to the interplay between the various factors that are used in the return calculations. For example, the current low risk free rate in the form of the 10 year bond yield is a function of the heightened level of uncertainty that exists in the market at the moment which in turn should be reflected by a higher equity risk premium. There is ample evidence of this higher equity risk premium in the current subdued activity levels in the primary and secondary issuance markets. Additionally, there is also a fair argument that the Australian 10 year bond yield is being artificially subdued by high levels of foreign buying given its place in the increasingly scarce pool of AAA rated securities.
>
> Regardless of the many different views that can be taken on the different factors and outcomes the key for us from an investment point of view is that there needs to be long term consistency in the allowable returns for regulated utilities. In this regard it is important to avoid a situation where investors feel that the rules can be changed on a short term basis and/or we can end up with very different outcomes for an asset based purely upon the date at which a decision is made and the market vagaries at the time. Failure to achieve this within an assets class that is perceived as defensive would certainly result in a flow of money away from the sector. With the ongoing growth of the Australian economy and population in the long term, the need for further capital to be invested into Utilities projects is a given. The private sector is going to be a key source of this capital, Stability in regulatory decisions, not volatility, is needed otherwise there is an elevated risk to us investing our clients superannuation dollars in the listed Utilities sector."

The following statement was prepared by Fidelity Worldwide Investment[81], an asset manager providing services to investors all over the world outside the US and Canada, which currently manages over US$210 billion for private individuals and institutions:

> "We acknowledge that the current regulatory approach is overly prescriptive and needs to be better linked to present market conditions. We welcome the implementation of a rate of return framework which will include a number of different models and financial analysis with a focus on market data and real-world market conditions. The framework should also define appropriate guidelines and limitations to ensure that the current regulatory accountability is maintained."

[80] See http://www.pinvest.com.au/.

[81] See http://www.fidelity.com.au/.

The following statement was prepared by an institutional investor with more than $130 billion of funds under management and invested on behalf of its clients, $5 billion of which is invested in utility and infrastructure assets throughout the globe:

> "As a long standing investor in regulated utilities and infrastructure assets. What attracts us and our clients to the sector is the long standing consistent application of a developed regulatory framework, the stable and appropriate level of returns provided by regulated utilities. Of course, any changes to the framework, return structure and/or appropriateness of the returns provided will increase the risk of investing in the Australian based assets and as a global investor with the competition for capital considerable we very well would need to reconsider the level of investment allocated to Australia."

The following statement was prepared by RARE Infrastructure[82], an Australian-based fund manager specialising in global infrastructure:

> "Regulators need to ensure returns are sufficient for companies to attract capital, both debt and equity, to expand networks to meet customer requirements. Global Funds like RARE have a choice whether to invest in regulated assets in Australia. Despite RARE liking the Australian regulatory framework, if allowed returns are insufficient to compensate us for the risk, we will invest our clients' capital elsewhere in the world."

The above statements reflect broad investor concerns about the regulators' approach to estimating the cost of capital. They were made in the context of the AEMC's present deliberations on its draft Rule determination on the economic regulation of network services. Nonetheless, they are also highly relevant to the AER's consideration of Multinet's estimate of the cost of equity. Specifically, a consistent theme emerging from these statements and the Financial Investor Group's submission is the concern among investors that recent regulatory decisions have produced cost of equity estimates that are unprecedentedly low, and which do not accord with capital market expectations.

6.6.5 Evidence from UK and US regulators shows AER error

Multinet commissioned two reports - one from Professor Stephen Wright and the other from Professor Alan Gregory - comparing the AER's approach to estimating the cost of equity, with the approach adopted by the AER's UK counterpart, Ofgem. It should be noted that Professor Stephen Wright has advised Ofgem in relation to the cost of equity and was a co-author of the Smithers & Co report, which was commissioned by a consortium of UK regulators in 2003, and which remains an authoritative reference in UK regulatory decision-making on the cost of capital.

Professor Wright comments:[83]

i. "Both the real market cost of equity and the MRP are inherently unobservable. But of necessity regulators have to commit themselves to a particular set of assumptions about these unobservable magnitudes. My view, in line with the UK regulators, is that regulators should work on the assumption that the real market cost of equity is constant. This approach is supported by quite strong evidence. For any firm with β reasonably close to one, the assumed real market cost of equity is by far the most important figure affecting the cost of capital for regulated companies.

[82] See http://www.rareinfrastructure.com/.

[83] CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 87.

Thus this methodology has the added advantage of providing a stable regulatory regime. I believe this has proved its worth in the UK.

ii. Any other assumptions should be consistent with this core assumption. As a direct implication, whatever assumption is made on the risk-free rate, the implied equity premium must move point by point in the opposite direction.

iii. The AER, by assuming that the risk premium is constant, and hence that the cost of equity capital has simply followed the risk free rate down point by point, has in my view made a clear error.

iv. This behaviour is particularly inappropriate in the Australian context. By assuming a lower cost of capital, the AER is imposing a lower return on capital for the regulated company, at a time when profitability, and hence returns of unregulated companies are at a cyclical high, which is in turn inducing very strong investment. This puts regulated companies at a potentially severe disadvantage compared to unregulated companies, and implies the serious risk that regulated companies will under-invest.

v. Whilst point ii) necessarily applies that in my approach (and that of UK regulators), the (estimated) MRP and the risk-free rate must move in opposite directions, this phenomenon cannot be directly observed, since the true MRP is inherently unobservable. However there is a considerable body of academic research that would suggest indirect evidence of this negative relationship, both by looking at economic determinants of the MRP, and at the properties of implied risk premia on other assets, such as corporate and government bonds.

vi. In a world of internationally integrated capital markets, it would be absurd to assume that Australian companies are only raising capital from domestic investors. Thus international evidence and practice is highly relevant, especially for the cost of equity.

vii. While I believe that the AER has got it wrong on the (crucially important) cost of equity, I have no significant criticisms of the assumptions the AER has made on the risk-free rate per se. The risk-free rate is observable (more or less), and to the extent that a regulated company has lower systematic risk than the market, this should in principle be taken into account. However, the combination of this methodology for the risk-free rate and the assumption of a constant risk-premium does cause major problems, by introducing instability into the assumed figure for the real cost of equity (as under point iii) above). My preference would be for the AER to adopt the approach followed by UK regulators, of assuming a constant real market cost of equity (as in point i) above). But if the AER continues to assume a constant MRP based primarily derived from realised returns, a possible compromise approach would be to combine this with a historic average risk-free rate. For a firm with β equal to one this would give an identical answer to my preferred approach; but even for a firm with β less than one it would result in an outcome that would be markedly superior to what the AER currently proposes."

Professor Wright points to academic literature that supports the proposition that the risk free rate and MRP are negatively correlated as the economy moves through business cycles. As noted in section 6.6.3, Multinet also has market evidence that independent expert valuers adopt MRP and risk free rate parameter values that are negatively correlated as the risk free rate falls below 4.5 per cent.

Professor Gregory applies the UK approach to the Australian data and concludes that if the AER had adopted an approach that was consistent with the UK experience, the resulting market cost of equity would have been substantially greater. For example, Professor Gregory comments:

"We can anchor this 1958-2005 estimate by using the most widely-cited international evidence of Dimson, Marsh and Staunton (2012), henceforth DMS. They show that for 1900-2011, the real mean realised RM for Australia is 8.9 per cent (arithmetic) [see Dimson, Marsh and Staunton (2012) Credit Suisse Global Investment Returns Sourcebook (Table 13, p.57)]. The

> mean long run real bond rate is 2.4 per cent (arithmetic). Again applying the forecast inflation rate of 2.5 per cent, were one to use these historical estimates of real RM as an estimate the expected RM, the arithmetic average implies an E(RM) of 11.62 per cent. Note that the DMS figures assume that the value of imputation tax credits is zero."

Professor Gregory concludes that the Australian historic data, properly applied, would yield an estimate today of the market cost of equity of 11.6 per cent, compared to the AER's estimate for the Victorian gas businesses of 8.98 per cent. It is worth recalling that Professor Gregory's estimate of the market cost of equity is closely aligned with the average cost of equity estimates of independent experts over the 2008-2012 period, which averages 11.5 per cent (as explained in section 6.6.3 above).

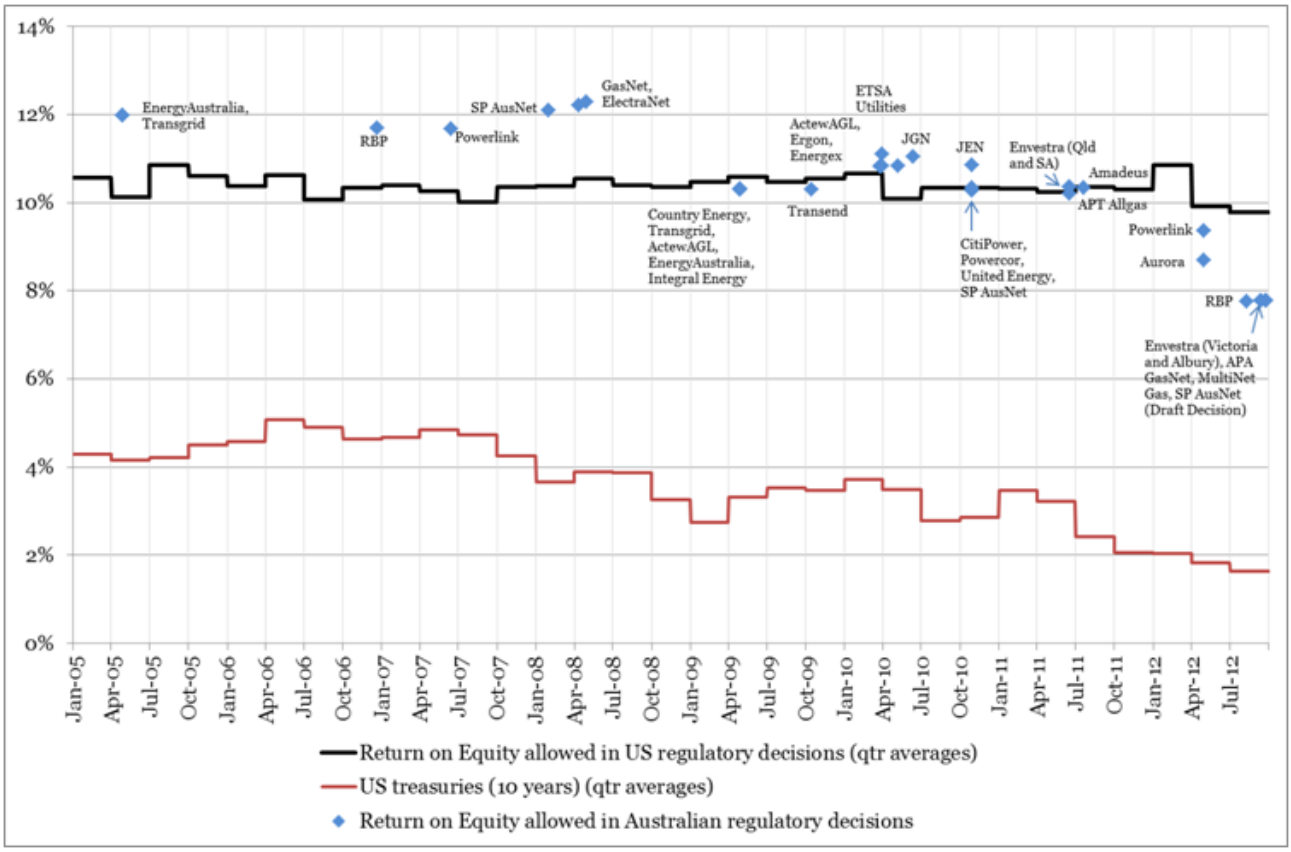
CEG's report examines regulatory decisions on the cost of equity in the US. CEG's report states:

> "Energy regulators, along with most other monopoly regulators in the US, do not tend to reflect variations in the risk free rates, proxied by 10 year Treasury bond rates, in the allowed cost of equity for a regulated business. This reflects the fact that the US regulators attempt to estimate the cost of equity using a wholly forward looking methodology. As a result, any fall in Government bond yields due to a rise in risk aversion will tend to be automatically offset by higher allowed risk premiums."[84]

CEG presents data which shows the stability in the US regulators' cost of equity decisions for regulated electricity transport businesses over the last 7 years. The data are shown in the figure below.

[84] CEG, Internal consistency of risk free rate and MRP in the CAPM, November 2012, p. 24.

Figure 6-10: US regulatory decisions over time broken into risk free rate and risk premium



Source: CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 87.Figure 9.

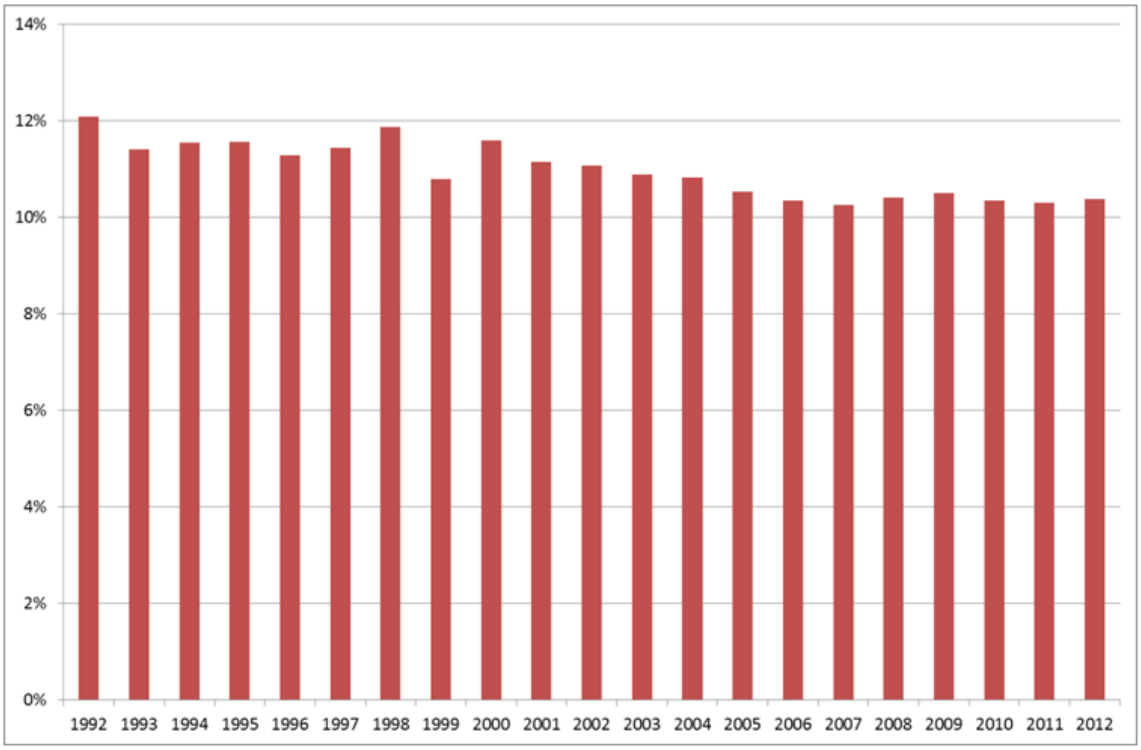
CEG explains that the figure above shows that over the period since 2005, the US government 10 year bond rates were volatile and were, in mid 2012, around 300 basis points lower than (less than half) their pre-crisis peak (2.05 per cent versus 5.07 per cent). However, the allowed return on equity did not move in line with movements in risk free rates – with the average return on equity allowed by US regulators relatively stable at 10.38 per cent in the face of movements in risk free rates. CEG notes:

> "It is clear that the AER's most recent decisions, in particular the draft decision relating to the Victorian distribution businesses and the final decision relating to RBP, are almost 3 per cent below the return on equity allowed by US regulators on average. In examining this chart [shown above] one should focus on the trend in the compensation for investment in each jurisdiction rather than the absolute level. The average compensation provided to equity investors in the US should be lower than for equivalent Australian decisions because US businesses are, on average, much more lightly geared (less than 50 per cent) than the AER's assumed 60 per cent gearing level. The fact that, despite this difference in assumed gearing, recent Australian trends have led to much lower allowances in Australia is symptomatic of the problems I have identified with the AER methodology."[85]

[85]. [85] CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 90

The CEG report notes that a pattern of stability is clearly observable in the return on equity allowances for regulated US energy firms over the last 20 years, as shown in the figure below.

Figure 6-11: US regulatory return on equity decisions over 20 years – average per year



Source: CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 90, Figure 10.

The CEG report concludes:

> "For the US regulatory decisions from 2005 to 2011 assessed in March 2012, I estimated the average ROE as 10.38% (11.01% over the last 20 years). The average equity premium was 6.57% and average 10 year US Treasury rate was 3.80%. This was based on DGM analysis performed by regulators. However, this was for an average gearing of 47.98%. Adjusting this to 60% gearing gives an average cost of equity of 12.36%"[86]

Of course, Multinet recognises that each piece of evidence presented in this revised proposal is open to criticism, simply because of the inherent (and unavoidable) imprecision involved in estimating unobservable parameter values. Nevertheless, Multinet regards the weight of evidence from a variety of sources and approaches as compelling. It shows that the AER's cost of equity estimate is unreasonably low.

As already noted, the error in the AER's estimation method arises from mixing up two alternative methods. By combining the spot risk free rate and the long term average MRP, the AER's methodology yields an estimate for the market cost of equity that is too low. If the AER adopted an

[86] CEG, Update to March 2012 Report on consistency of risk free rate and MRP in the CAPM, paragraph 92.

approach similar to that adopted in the UK, or at least adopted consistently measured parameters for the risk free rate and MRP, this error would be overcome.

6.6.6 AER's reasonableness checks are in error

SFG consulting reviewed the reasonableness checks applied by the AER in the Draft Decision.

SFG Consulting explains that some of the AER's "reasonableness checks" relate to estimates of trading and transaction multiples, which are irrelevant. SFG notes that a sale price or trading multiple in excess of the RAB does not inevitably establish that the regulatory rate of return exceeds that required by investors. Rather, sales of regulated assets at a premium to the RAB could reflect a myriad of factors, which are examined in SFG's report. Moreover, half of the data relied upon by the AER relates to transactions that occurred over 6 years ago - prior to the GFC and the European sovereign debt crisis. To the extent that the prevailing conditions in the market now differ from the conditions in the market in 2006, transactions completed in 2006 would be of little relevance.

The SFG report explains that the use of broker WACC estimates as a source of evidence with respect to the actual cost of capital faced by regulated businesses is subject to many known limitations, and the weight applied to such evidence should reflect these limitations. In its Draft Decision, the AER noted that the range of broker WACC estimates in its sample is 7.76 per cent – 10.02 per cent, and that the AER's proposed allowed WACC of 7.16 per cent is 173 basis points below the mid-point of the range and 60 basis points below the minimum value in this range. SFG notes that from this, the AER concluded that:

> "broker WACC estimates do not demonstrate that the overall rate of return, which is based on the analysis of individual parameters, is not commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services."[87]

SFG then observes:

> "This conclusion begs the question of how a reasonableness check should properly be applied and interpreted. In the case at hand we have the regulatory estimate being checked for reasonableness against a number of alternate (broker) estimates. The regulatory estimate is below the entire range of alternate estimates – it is even materially below the minimum of all alternate estimates. In our view, this should not be interpreted as confirming the reasonableness of the regulatory estimate.
>
> Indeed, if this evidence does not lead one to question the reasonableness of the regulatory estimate, it would seem that no evidence would ever do so."[88]

SFG has conducted its own reasonableness checks, noting that there are three components to the return to equity holders:

- Dividends;
- Capital gains, and

[87] SFG Consulting, The required return on equity: Response to AER Victorian Draft Decisions, 31 October 2012, paragraph 228.
[88] Ibid, paragraphs 229 and 230.

- Imputation tax credits.

SFG calculate a lower bound on each of the three components of return that investors might reasonably expect to receive from the average comparable firm. Taken together, this provides a lower bound on the aggregated return that investors might reasonably expect to receive from an investment in a comparable firm. This lower bound can then be compared with the allowed regulatory return as one test of whether the allowed return can reasonably be considered to be commensurate with the prevailing conditions in the market for funds.

SFG calculated the following lower bound:

- The return from dividends is based on the average dividend yield currently available from comparable firms (7 per cent). The lower bound estimate assumes that the firm simply maintains the current dividend and there is no growth in dividends whatsoever;

- The return from capital gains is based on the AER's estimate of expected inflation (2.5 per cent). The lower bound estimate assumes that the firm's share price will just maintain its value in real terms and will provide no real return at all to investors; and

- The adjustment for imputation credits is based on the AER's estimate of gamma (0.25) and the corporate tax rate (30 per cent).

These conservative (low bound) assumptions imply that investors in the shares of comparable firms would reasonably expect to receive a return on equity of at least 10.5 per cent, compared with the AER's allowed return on equity of 7.78 per cent. This lower bound calculation implies that the 'spot' MRP substantially exceeds the 6 per cent assumed by the AER[89].

SFG comments that it is not clear how the AER's allowed return on equity of 7.78 per cent can be reasonably considered to be commensurate with the prevailing conditions in the market for funds when investors in comparable firms can reasonably expect to receive a return that is at least 35 per cent higher than what is being allowed to investors in the benchmark firm.

6.6.7 AER's reliance on the 'present value principle' is in error

In rejecting Multinet's approach of combining long term average measures of the risk free rate and the MRP to estimate the cost of equity, the Draft Decision states:

> "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."[90]

Multinet asked Professor Stephen Wright and Professor Alan Gregory to review and comment on the advice provided to the AER by Associate Professor Lally in two papers[91].

[89] Ibid, paragraphs 82 and 83

[90] AER Draft Decision, Part 1, page 41.

[91] Associate Professor Lally, The Risk Free Rate and Present Value Principle, 22 August 2012; and Associate Professor Lally, The Cost of Equity and the Market Risk Premium, 25 July 2012.

In relation to Associate Professor Lally's paper titled "The Risk Free Rate and Present Value Principle", Professor Wright stated:

> "Professor Lally's analysis is theoretically correct, but only given his key assumption, that the income stream of the regulated monopoly is risk-free. When this assumption does not hold (which in all practical instances it does not), the appropriate discount rate in his analysis must – as he acknowledges – contain an additional risk premium. Thus the present value principle is only operational in practice if we make assumptions about the overall cost of equity of the regulated company: i.e., the sum of the risk-free rate and a risk premium. In contrast to the risk-free rate, the overall cost of equity is not directly observable. As a result the practical application of the present value principle is crucially dependent on what assumptions are made about this crucial magnitude: it is emphatically not simply dependent on a market-based measure of the risk-free rate."[92]

Professor Gregory reached the same conclusion:

> "Unfortunately, Lally quite specifically rules out a constant risk free rate and a constant risk adjusted rate in his assumptions and his examples. He assumes that the risk free rate changes each period, and since, elsewhere, he has argued for the use of a constant market risk premium (MRP), the implication is that the appropriate discount rate varies each period in line with changes in the underlying risk free rate. Reduced to basics, the true position is far more complex than Lally suggests, to the point where his conclusions are invalid."[93]

Both UK experts conclude that the present value principle (PVP) does not prohibit the use of a long run average as a proxy for the risk free rate. Professor Gregory concludes his analysis as follows:

> "I do not believe that either the UK approach or the IPART approach is inconsistent with the PVP, because both methods represent a genuine attempt to establish the WACC as accurately as is possible in a real world setting with uncertainty surrounding each of the parameters (including the risk free rate). There is nothing in this approach that prohibits the incorporation of a long run average risk free rate."[94]

6.6.8 AER's cost of equity estimate is inconsistent with the NGR and NGL

Multinet asked Mr Jeff Balchin of PWC to provide a detailed examination of the meaning and intended purpose of:

- the "national gas objective" set out in section 23 of the National Gas Law – i.e. 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 – particularly in relation to the rate of return on capital and the cost of equity; and

- the "revenue and pricing principles" set out in subsections (2), (5), (6) and (7) of section 24 of the National Gas Law, particularly in relation to the rate of return on capital and the cost of equity.

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92 Stephen Wright, Response to Professor Lally's Analysis, 2 November 2012, page 2.

93 Alan Gregory, Risk Free Rate and the Present Value Principle, 31 October 2012, paragraph 13.

94 Ibid, paragraph 25.

Furthermore, Mr Balchin was asked, in light of his findings, whether he considers that the cost of equity and resulting WACC adopted by the AER in its Draft Decision is consistent with the National Gas Objective and the Revenue and Pricing Principles in the NGL.

In his independent expert report, Mr Balchin included analysis on the likely consequences for customers if the cost of capital is set too low. He explained that:

> "In my view, the guidance from the NGO for this task is that the regulated rate of return should be set with reference to an estimate of the "true" cost of capital, but with a consideration as to whether there may be a net benefit from varying from this starting point in view of the imprecision of the estimate and the potential losses from erring on the upside compared to the downside. I consider that the efficiency and consumer components of the clause provide materially the same guidance on this matter. I note the following in particular:
>
> If the regulatory rate of return is set below the true cost of capital, then the incentive and capacity for service provision over the long term would be imperilled. This would amount to an allocative inefficiency as the provision of natural gas services would be withdrawn even though they are valued by consumers by more than other goods and services in the economy. Equally, it would be detrimental to the long term interests of consumers given that they value service provision in excess of the cost."

Multinet notes that the AER's Draft Decision has given no consideration to the asymmetric and adverse consequences that would arise if the cost of capital were set too low. If the AER had given consideration to this issue, it would not have set a cost of equity that is significantly lower than AER estimates only 12 months earlier.

Furthermore, it is evident that the AER's estimation method produces volatile cost of equity estimates over time. Consequently, network companies with substantially overlapping regulatory periods will have markedly different rates of return and network prices. This will distort upstream and downstream investment; create allocative and dynamic inefficiencies; and distort efficient investment in, and use of, gas pipelines. All of these outcomes are contrary to the National Gas Objective.

6.6.9 Summary of the key findings

Before turning to Multinet's proposed cost of equity, it is useful to summarise the findings thus far.

The AER's approach to estimating the cost of equity is in error because does not adopt either of the following method:

1. Adopt 'spot estimates' of the risk free rate and MRP; or

2. Adopt long-term averages of the risk free rate and MRP.

Instead the AER takes a mix from method 1 and method 2. The AER's estimate of the MRP is a long term average, while its estimate of the risk free rate is a 'spot rate'.

Multinet submits expert opinions from Professor Alan Gregory and Professor Stephen Wright, which say unequivocally that the AER has made an error.

The AER claims that its estimate of the MRP is a 'spot' rate, and it has not made an error. However, it is clear from the long history of regulatory decisions that an MRP of 6 per cent is a long term

average. Furthermore, if it were a spot rate, the AER would update it at the time of its Final Decisions, which it does not.

Multinet has submitted compelling evidence that the MRP exceeds 6 per cent. It is open to the AER to revisit its estimate of the MRP if it so wishes. However, Multinet's approach in this revised proposal is to adopt a long term average of the risk free rate, and to combine this with a long term average of the MRP to derive an estimate of the cost of equity. This method is supported by UK regulators and IPART, both of whom recognise the problems associated with adopting a 'spot' measure of the risk free rate when this parameter is at an all-time low.

The criticisms that Associate Professor Lally has made of Multinet's proposed approach are unfounded. Three independent expert reports have identified important deficiencies in Professor Lally's approach.

Multinet has commissioned a detailed analysis of the available market evidence contained in independent expert reports that value companies in accordance with Corporations Law and ASX requirements. The evidence directly contradicts the AER's conclusions in its Draft Decision and establishes those conclusions do not comply with rule 87(1).. Most importantly, the market evidence shows that the cost of equity has not fallen to the extent suggested by the AER.

Mr Balchin explains that the AER should have considered the asymmetric consequences that arise from setting the cost of capital too low. Professor Stephen Wright explained that the AER's cost of equity estimate is putting regulated companies at a potentially severe disadvantage compared to unregulated companies. He noted that this situation creates serious risk of underinvestment in regulated businesses.

In developing its preferred position in this revised proposal, Multinet had regard to the independent expert opinion of Mr Greg Houston of NERA. In his report, Mr Houston concluded:

> "In my opinion, taking into account the principles I set out in section 4.1, and the observations by respected commentators and market evidence that I set out in section 4.2, current market circumstances give rise to considerable doubt that the acknowledged pre-condition for safe application of the AER's methodology for determining the risk free rate is satisfied.
>
> It follows that the AER's method of estimating the risk free rate by reference to a date as close as practicable to the commencement of the regulatory period is not, in fact, 'theoretically correct' in a context where there is evidence suggesting a material change in investors' risk appetite and where significant weight is to be placed on historical estimates of the MRP for determining the cost of equity. Rather, the consequence of my analysis is that a departure from the AER methodology for determining the risk free rate component of the cost of equity is warranted." [95]

Mr Houston, who was one the architects of the current cost of equity estimation approaches adopted by the AER, sees no difficulty in adopting Multinet's proposed approach of averaging the risk free rate, given existing market conditions. In the next section, Multinet sets out its cost of equity proposal.

6.7 Multinet's estimate of the cost of equity

[95] Greg Houston, Estimating the Cost of Equity under the CAPM, November 2012, page 30.

As already noted, Multinet accepts the following aspects of the Draft Decision:

- The CAPM may be used to estimate the cost of equity.
- The equity beta should be estimated to be 0.8.

Multinet has demonstrated that in unusual capital market conditions – such as those prevailing - the AER's standard approach to estimating the cost of equity fails to produce an outcome that meets the requirements of the NGR. As noted, the AER's approach combines an estimate of the MRP that reflects a long-term average with a spot risk free rate at a time when yields on government bonds are at unprecedentedly low levels. In these circumstances, it is instructive to examine the approach applied by the NSW independent economic regulator (IPART) in its December 2011 Final Report on its review of water prices for Sydney Desalination Plant (SDP) Pty Limited. Page 80 of IPART's Final Report stated:

> "We determined the values for the parameters of the WACC based on market conditions over the 20 days to 28 October 2011. The risk free rate and debt margin have been affected by market volatility and the prolonged weak market following the credit crisis of 2008. The change in these factors has potentially created a disparity between these parameters (for which we use short term average data) and the market risk premium (for which we use long term average data).
>
> However, the effects of this disparity are mitigated by our decision to use a point estimate of 6.7 per cent, which is 80 basis points higher than the midpoint of our estimated WACC range. In doing so, we had strong regard to the calculated WACC using longer term averages for market parameters."

On page 93 of its Final Report, IPART explained its approach as follows:

> "For this review, we consider that the value of the risk free rate is currently well below long term averages and that there is a high level of market uncertainty. We consider the risks in setting a 5-year determination in the current conditions are more significant than under normal market conditions.
>
> An alternative approach is to look at the long term averages as a reference point for the sum of the market risk premium and risk free rate.
>
> Therefore, to guide our decision-making on the point estimate for the WACC, we estimated the long term averages of the risk free rate, inflation rate and the market risk premium. We found that using these long term averages, the WACC range would be 5.9 per cent to 7.8 per cent with a midpoint of 6.7 per cent. This midpoint is 80 basis points higher than the midpoint of the range we determined for the WACC using short term averages for these parameters, but still within this range."

In explaining its approach, IPART commented on page 85 as follows:

> "We also recognise that the risk free rate […] is historically low. Indeed, this was one of the main reasons we decided to set the point estimate for SDP's WACC towards the top of the possible range we estimated."

IPART effectively adjusted its WACC range by using long run averages, in particular for the risk free rate (which became 5.4 per cent as opposed to 3.9 per cent using the 20 day average approach).

It is noteworthy that the approach adopted by IPART is consistent with the approach applied by UK regulators (as explained in the accompanying expert reports provided by Professor Stephen Wright and Professor Alan Gregory). Professor Gregory summarises his assessment in the following terms:[96]

> "To the extent that the 6% MRP adopted by the AER is largely, but not exclusively, determined by the historical evidence, it is difficult to be prescriptive about exactly which estimate of RF is best combined with this in current market circumstances, but the pragmatic solution of both IPART and UK regulators (described in detail below) is to use a weighted average of the more recent historical averages and the current spot rate, with the majority of the weight being on the former. Given considerable uncertainty exists about both the "true" RF and MRP, such an approach is reasonable, in contrast to the AER's current position which is not."

In light of Professor Gregory's comments and the errors in the AER's approach already discussed, Multinet maintains its view that a long term historic average MRP of 6 per cent must be combined with a long term average risk free rate. In this revised proposal, Multinet adopts a long term average measure of the risk free rate measured over 10 years. Although there are numerous alternative measures that could be adopted, the IPART approach has the benefit of regulatory precedent in Australia. Furthermore, it directly addresses the following concern raised by the AER: [97]

> "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."

Multinet notes that by adopting a 10 year averaging period, as adopted by IPART, there can be no suggestion that the period has been adopted to manipulate the results. Furthermore, Multinet has ensured that the adopted nominal risk free rate takes account of any difference between historic and forecast inflation. In this revised proposal, therefore, Multinet has adopted a nominal risk free rate of 5.00 per cent.

Applying an equity beta value of 0.8 (in accordance with the AER's Draft Decision), the resulting cost of equity is estimated using the CAPM as follows:

$$k_e = r_f + \beta_e \times MRP$$

= 5.00% +(0.8 x 6)

= 9.80%

It is noted that Multinet's corresponding market cost of equity (assuming a beta of 1) is 11.00 per cent, which is closely aligned with Ernst & Young's market evidence for 2012, which shows an average estimate of 10.7 per cent

[96] Professor Alan Gregory, The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, paragraph 54.

[97] AER, Draft Decision, Part 3, page 13 (pdf).

6.8 Debt Risk Premium

As previously noted, Multinet accepts the following aspects of the Draft Decision:

- In estimating the debt risk premium (DRP), the benchmark bond is a 10 year Australian corporate bond with a BBB+ credit rating. The benchmark bond is estimated using the extrapolated Bloomberg BBB rated 7 year fair value curve.

- The Bloomberg BBB rated 7 year fair value curve should be extrapolated to a 10 year maturity (consistent with the definition of the benchmark bond) using paired bond analysis.

Multinet notes that the AER has commenced an internal review into alternatives to the Bloomberg fair value curve, and that the AER intends to advise of a public consultation process on the development of an alternative in due course. Multinet also notes the assurance provided on page 37 of the Draft Decision that:

> "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."

Multinet strongly concurs that the timetable for conclusion of the present Access Arrangement Review, and the current status of the "Economic Regulation of Network Service Providers" rule change proposal lodged by the AER would make it impossible for the AER to complete a consultation process that accords with the Tribunal's comments, in time for a new approach for estimating the DRP to be applied in the Final Determination.

For the purpose of this response Multinet has adopted the Draft Decision's DRP estimate as a placeholder. Prior to the final decision Multinet will lodge a confidential request with the AER to agree the averaging period that will be used to set the cost of debt allowance for the purpose of the final decision. Multinet will request that the agreed averaging period remains confidential until the AER's final decision is published.

6.9 Summary of proposed WACC and constituent parameters

Multinet proposes a nominal cost of equity of 9.8 per cent, derived using historic averages of the risk free rate and the MRP in the Capital Asset Pricing Mode (CAPM), as shown in the table below.

Table 6-5: Derivation of cost of equity estimate

CAPM Parameter	Parameter value
Risk free rate	5.00%
Market risk premium	6%
Equity beta	0.8
Cost of equity	**9.80%**

Multinet proposes a nominal vanilla WACC of 7.96 per cent, which reflects the adoption of the parameter values set out in the following table.

Table 6-6: WACC and other parameter values

Parameter	Basis of estimate	Value
Cost of equity	CAPM; see Table 6-5	9.80%
Cost of debt *	Risk free rate of 2.98% plus debt risk premium of 3.76% over the measurement period used in the draft decision.	6.74%
Capital structure (debt to total value)	This value is adopted in the AER's Draft Decision. Prevailing market evidence does not provide a compelling case to justify a departure from this benchmark.	60%
Corporate tax rate	This value is adopted in the Draft Decision. It is consistent with the statutory corporate tax rate.	30%
Value of imputation credits	This value is adopted in the Draft Decision. It is consistent with the decision of the Australian Competition Tribunal made in May 2011.	0.25
Inflation forecast *	This value is adopted in the Draft Decision. The value is a 10-year forecast estimated from the inflation forecasts published by the RBA and the long term inflation target of the RBA.	2.50%
Vanilla WACC		**7.96% nominal**

Multinet submits that the discussion presented in this chapter satisfies the requirements of rule 72(1)(g), which requires Multinet to propose a rate of return, explain the assumptions on which the rate of return is calculated and demonstrate how it is calculated.

Moreover, Multinet is confident that the information set out above and in the accompanying independent expert reports demonstrates that:

- Multinet's approach to deriving the WACC accords with the requirements of rule 87(2); and;
- Multinet's WACC estimate meets the requirements of rule 87(1).

7. Efficiency carryover amount for current period

7.1 Overview

The Draft Decision did not accept Multinet's proposal to exclude the 'negative carryover' amounts accrued in the current access arrangement from the calculation of Multinet's total revenue for the forthcoming access arrangement period.

Multinet has carefully examined the relevant provisions of its access arrangement, the Gas Code; the ESC's Final Determination for the current access arrangement period; and other provisions of the Rules. This examination shows that the incentive mechanism in Multinet's access arrangement approved under section 8.44 of the Gas Code does not operate to result in revenue decrements. In addition, section 8.44 of the Gas Code makes no statutory provision for such decrements.

Therefore, Multinet's revised proposal excludes the 'negative carryover' amounts accrued in the current access arrangement period from the calculation of Multinet's total revenue for the forthcoming access arrangement period.

Furthermore, even if the negative carryover amounts did arise under the access arrangement– and they do not – Multinet considers that the AER's refusal to set the carryover amount to zero is an unreasonable exercise of discretion given the approach adopted for United Energy in practically identical circumstances.

7.2 Draft Decision and issues arising

The Draft Decision did not accept Multinet's proposal to disregard the negative carryover accrued in the current access arrangement period. It does so on the basis that "[t]he 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" and refers to clause 5(1)(a) of Schedule 1 of the NGR.

This clause provides:

> "In deciding whether to approve an access arrangement revision proposal for a transitional access arrangement, or in making its own proposal for revision of a transitional access arrangement under rule 63 or 64, the AER must…take into account the operation of an incentive mechanism approved for the transitional access arrangement under clause 8.44 of the Gas Code and ensure, in particular, that revenue calculations made for the next access arrangement period properly reflect increments or decrements resulting from the operation of the incentive mechanism."

The AER has calculated that Multinet accrued a total carryover of –$16.7 million ($2012) during the current access arrangement period. The table below (which reproduces Table 10.1 of the Draft Decision) sets out the efficiency carry-over amounts determined by the AER.

Table 7-1: Draft Decision on Multinet carryover from the current access arrangement period ($m, real , 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: Draft Decision Part 1, Table 10.1.

The Draft Decision stated that in order to be consistent with the operation of the incentive mechanism in Multinet's access arrangement and the transitional provisions in the Rules, the AER considered that the negative amounts should be carried forward to the forthcoming access arrangement period to ensure effective incentives to pursue efficiencies consistent with the revenue and pricing principles.

Multinet's response is set out below.

7.3 Multinet's response on efficiency carry over for current access arrangement period

The AER believes that the operation of the incentive mechanism in Multinet's access arrangement under clause 8.44 of the Gas Code results in decrements. It does not.

The following sections set out the reasoning underpinning Multinet's position.

7.3.1 The incentive mechanism in Multinet's access arrangement

The incentive mechanism in Multinet's access arrangement is in clause 7.2(6) of Part B.

Clause 7.2(6) of Multinet's access arrangement is a fixed principle as follows:

> To the extent that the application of clause 6.4 results in a positive efficiency carryover at the end of the Third Access Arrangement Period, the reward earned in the Third Access Arrangement Period is to be added to the Total Revenue and carried forward into the Fourth Access Arrangement Period, until it has been retained by the Service Provider for a period of a full five years, in accordance with clause 6.4 (emphasis added).

Consistently, clause 6.4 provides the mechanism to determine if there is a positive efficiency carryover at the end of the five year period commencing 1 January 2008.

Both clauses 7.2(6) and 6.4 provide only for increments.

That clause sets out that section 8.44 of the Gas Code permits a Service Provider to retain returns to the Service Provider that exceed the expected level of returns. There is no reference to a Service Provider bearing the burden of returns lower than expected. This description of section 8.44 of the Gas Code is consistent with the views later expressed by the ESC Appeal Panel, discussed further below.

Paragraph (a) of clause 6.4 sets out general principles, which reflect the following features:

- the incentive arrangements include a 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 (emphasis added);

- that reward is the net amount of efficiency gains or losses relating to capital and operating expenditure earned in one year of an access arrangement period. For example, in any year there may be a gain from outturn operating expenditure and a loss from outturn capital expenditure. A net amount is calculated from the gain and loss within that year, but that net amount is only relevant if it is a reward; and

- to support the calculation of the net annual amount, the approach for calculating a gain or loss in any one year for each of capital and operating expenditure is described.

Paragraph (b) of clause 6.4, under the heading "the mechanism for carrying over efficiency gains (emphasis added), contains two items that deal with the last year of the Third Access Arrangement Period for both capital and operating expenditure. Consistent with the heading, these items provide an approach for carrying over increments, and only increments; the approach does not contemplate the inclusion in the revenue requirement in the next period of a decrement.

Paragraph 6.4(b)(1) deals with operating expenditure and provides:

> 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 (emphasis added).

Paragraph 6.4(b)(2) deals with capital expenditure and provides:

> 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 a 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 and the expenditure level in the last year being known. At the following review, the regulatory asset base will be adjusted to take account of the difference between the forecast and actual capital expenditure for the last year of Second Access Arrangement Period (emphasis added).

By rule 99(3) of Part 9 and clause 5(1)(b) of Schedule 1 of the NGR the AER is obliged to give effect to the fixed principle in clause 7.2(6) of Multinet's access arrangement.

The AER is correct that clause 5(1)(a) of Schedule 1 of the NGR requires it to "take into account the operation of an incentive mechanism approved for the transitional access arrangement under clause 8.44 of the Gas Code and ensure, in particular, that revenue calculations made for the next access arrangement period properly reflect increments or decrements resulting from the operation of the incentive mechanism". However, the simple point is that the incentive mechanism in clauses

7.2(6) and 6.4 of Multinet's access arrangement only 'operates' to 'result' in increments or nothing; it never operates to result in decrements.

7.3.2 Section 8.44 of the Gas Code

It is not surprising that the incentive mechanism in Multinet's access arrangement operates in this way. The incentive mechanism is authorised by section 8.44 of the Gas Code which itself only provides for an incentive mechanism that gives rise to increments. As already noted, section 8.44 speaks only of a Service Provider retaining returns that exceed the expected level of returns.

The operation of the Gas Code is easily understood from extracts from the ESC Appeal Panel decision in 2008 when Envestra appealed against a negative efficiency carryover the ESC had included in its approval of Envestra's revenue allowance for the Albury network. Envestra argued that the Code did not permit a negative carryover.

The Panel decided that:

> "Sections 8.44 to 8.46 of the Code, when read with other sections of Part 8, including Section 8.4, indicate that only positive incentive mechanisms were contemplated and intended by the Code. Apart from there being only positive indicators within these three sections, the provisions are generally expressed in language consistent with positive incentive mechanisms whilst not consistent with negative incentive mechanisms. The Panel believes that, notwithstanding the broad discretion given to the regulator under the Code, the intention to restrict incentive mechanisms to the positive, reflected in the natural meaning of the words of section 8.44, overrides any contrary implication to be derived from section 8.49. Indeed, this later section itself is worded in a way which does not suggest negative mechanisms"[98].

The Panel had regard to section 8.4 of the Gas Code which, in setting out three methodologies for calculating total revenue provides:

> "…the methodology used…may also allow the Service Provider to retain some or all of the benefits arising from efficiency gains under an Incentive Mechanism. The amount of the benefit will be determined by the Relevant Regulator in the range of between 100% and 0% of the total efficiency gains achieved"

Section 8.46 of the Gas Code sets out the objectives an Incentive Mechanism should be designed to achieve and envisages only incentives that result in rewards. The Panel noted section 8.46 fits with section 8.1.

The Panel went on to say that it "considers that there is no power or discretion provided by the Code enabling the Commission to include in the access arrangement of the Applicant a negative ECM"[99].

The relevant provisions of the Gas Code and the Panel's decision make it plain that if the incentive mechanism in Multinet's access arrangement operated to result in decrements (which, in any event, it does not) it would not be authorised. For the AER to apply the incentive mechanism in Multinet's access arrangement in such a way that results in decrements is similarly not authorised.

[98] The Albury Gas Company Ltd v Essential Services Commission, Essential Services Commission Appeal Panel E2/2008, 11 November 2008, paragraph 175.
[99] Ibid, paragraph 177.

7.3.3 The relevance of the ESC's final decision

In the paragraph under table 7.3 the AER says its "operation of the incentive mechanism is informed by the ESC's final decision approving Multinet's 2008-12 access arrangement" and extracts paragraphs from that decision suggestive of the view that the incentive mechanism can result in decrements. That the ESC misunderstood Multinet's access arrangement and did not appreciate that section 8.44 of the Gas Code does not authorise such an incentive mechanism is irrelevant to the correct legal position.

This issue was also dealt with by the Panel. The ESC had noted it had made numerous published statements of its intention to make use of negative carryover mechanisms. The Panel acknowledged the ESC's argument but went on "[t]he regulator is nevertheless required to comply with the language and intention of the Code".[100]

7.3.4 Other NGR provisions

Rule 76 provides that total revenue is to be determined for each year of the *access arrangement period* using the building block approach in which the building blocks are:

(a) a return on the projected capital base for the year (See Divisions 4 and 5); and

(b) … and

(c) ….; and

(d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency (See Division 9); and

(e) ….

Whilst the AER has a power under this rule to include a decrement in the building blocks, it can only do so under this rule prospectively (i.e. arising from an incentive mechanism included in an access arrangement approved under the NGR). Rule 98 (upon which rule 76(d) relies by reference) sets out the parameters for an incentive mechanism to be included in the access arrangement for the next period.

Even if rule 76 could be relied on to include decrements that might arise from a incentive mechanism approved not under the NGR in an earlier period, it is subject to the operation of clause 2 of Schedule 1 of the NGR which gives primacy to clause 5(1)(a) of that Schedule and the operation of the incentive mechanism in Multinet's access arrangement. Again, the simple point is that the incentive mechanism in clause 7.2(6) of Multinet's access arrangement only 'operates' to 'result' in increments or nothing; it never operates to result in decrements. Moreover, if it did 'operate' to 'result' in decrements, it would not be authorised by section 8.44 of the Gas Code.

[100] Ibid, paragraphs 171 and 173.

7.3.1 AER's unreasonable exercise of discretion

Even if the negative carryover amounts did arise under the access arrangement– and they do not – the AER is wrong not to exercise its discretion to set such an amount to zero. The AER's reasoning is set out below[101]:

> "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 use these same costs to calculate United Energy's carryover would penalise United Energy for an increase in its service provider's costs, not its own. Recognising that this would be an anomalous outcome, it therefore exercised its discretion not to apply the negative carryover amounts.
>
> 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 provider's 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 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."

The AER argues that a difference between Multinet and United Energy is that Multinet's proposal is based on the assumption that its approved forecast operating allowance would not be based on its actual operating expenditure. In fact, there is no difference between Multinet and United Energy in relation to this matter. United Energy's revised regulatory proposal made it clear that it had adopted a bottom up forecasting approach[102]:

> "In this Revised Regulatory Proposal, UED reiterates that the new business model necessitates a 'bottom up' forecasting approach, rather than a 'year 4' approach as adopted by the AER's Draft Decision."

The AER has therefore based its conclusion on a factual error.

The AER also claims that Multinet and United Energy's circumstances differ because the AER's forecasts for Multinet are based on its costs, whereas for United Energy the AER's forecasts were based on JAM's costs, including losses. In chapter 2 of this revised proposal, Multinet refers to evidence from Professor Williams that there is no basis for this difference in approach. It therefore cannot be a reason to treat the two companies differently in relation to the treatment of efficiency carryover amounts.

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[101] AER, Draft Decision, Part 2, pages 177 and 178.

[102] United Energy, Revised Regulatory Proposal for Distribution Prices and Services January 2011 – December 2015

The final reason cited by the AER is that Multinet faces a capital expenditure incentive mechanism, whereas United Energy did not. Multinet notes, however, that the incentive mechanisms for operating and capital expenditure operate independently from one another. This is illustrated by the fact that the same operating expenditure incentive mechanism operates whether or not a capital expenditure incentive mechanism also operates. The AER's observation, while factually correct, is irrelevant to its exercise of discretion.

It is also interesting to note the views expressed by the Panel in response to submissions from Envestra that it was an unreasonable penalty for the ESC to apply a negative efficiency carryover when it had scrutinised the operating expenditure allowance at the beginning of the period and "made all necessary cuts to achieve to ensure efficiency"[103]. Whilst not having to decide the matter the Panel observed:

> "…there is considerable force in the argument of the Applicant that, having had transparent access to…the costs of the Applicant, and having made appropriate adjustments to achieve efficiency, it was unreasonable for the Commission to exercise a discretion to include a negative efficiency carryover"

In summary, the AER has provided no logical reason not to treat Multinet and United Energy on a consistent basis. In this respect, the Draft Decision is demonstrably unreasonable.

7.4 Multinet's revised proposal

On the basis of the reasoning set out above, Multinet's revised proposal excludes the negative carryover amounts accrued in the current access arrangement period from the calculation of Multinet's total revenue for the forthcoming access arrangement period.

[103] Essential Services Commission Appeal Panel, Op.cit, paragraph 163.

8. Total revenue, X factor and indicative price outcomes

8.1 Introduction

The purpose of this chapter is to present an overview of Multinet's revised total revenue (determined in accordance with rule 76) and X factor, along with an indication of the pricing outcomes for the forthcoming Access Arrangement Period.

This chapter is structured as follows:

- Section 8.2 shows the derivation of Multinet's revised total revenue in accordance with the requirements of rule 76.
- Section 8.3 sets out Multinet's revised proposed X factor;
- Section 0 provides analysis showing the pricing outcomes arising for customers under the proposed Access Arrangement for the forthcoming period.

8.2 Annual building block revenue requirement

In accordance with rule 76, Multinet's total revised revenue for the forthcoming access arrangement period is comprised of the following building blocks:

- Return on the projected capital base for each year, being the WACC (detailed in chapter 6) multiplied by the projected capital base (detailed in section 5.7)
- Depreciation on the projected capital base (detailed in section 4.8)
- Forecast operating expenditure (detailed in chapter 2).
- Increments resulting from the operation of the efficiency incentive mechanism during the current Access Arrangement Period (detailed in chapter 7)
- The estimated cost of corporate income tax (calculated using the forecast tax depreciation charges detailed in section 4.7)

The table below provides a summary of the derivation of Multinet's revised total revenue for each regulatory year of the forthcoming Access Arrangement Period, in accordance with rule 76.

Table 8-1: Revised total revenue requirements ($m, real 2012)

	Year Ending 31 December					
	2013	2014	2015	2016	2017	Total
Return on capital base	55.8	57.9	57.7	57.6	58.4	287.3
Depreciation	46.2	52.7	54.9	57.0	59.7	270.5
O&M Expenditure	65.0	69.7	71.1	70.4	69.8	346.0
Less ancillary services	-1.4	-1.5	-1.5	-1.5	-1.5	-7.3
Tax Wedge	7.3	6.7	7.1	7.7	8.7	37.5
Total revenue	**172.8**	**185.5**	**189.3**	**191.3**	**195.0**	**933.9**

8.3 X Factor

The X factor is the amount by which Multinet's average revenue is permitted to increase in real terms (in accordance with the proposed reference tariff variation mechanism detailed in chapter 11) for each year of the forthcoming Access Arrangement Period.

The revised X factors detailed in the table below have been calculated in accordance with rule 92(2), which states:

> "The reference tariff variation mechanism must be designed to equalise (in terms of present values):
>
> (a) forecast revenue from reference services over the access arrangement period; and
>
> (b) the portion of total revenue allocated to reference services for the access arrangement period."

Table 8-2: Revised annual X factor amounts

	Year Ending 31 December				
	2013	2014	2015	2016	2017
Price Path	-0.75%	0.00%	0.00%	0.00%	0.00%
Smoothed Price Path	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%

8.4 Analysis of typical customer/pricing outcomes

Based on the revised total revenues and X factors set out above, the table below provides an indication of the pricing outcomes under the proposed Access Arrangement, for a number of typical customers.

Table 8-3: Analysis of 'typical' residential bill

	Current invoice (2012)	New invoice (2013)	% Change
Cost of Gas (inc Retail)	$474.64	$474.64	0.0
Transmission	$56.67	$56.67	0.0
Distribution	$273.71	$275.76	0.75
Total Gas Invoice	**$805.02**	**$807.07**	**0.25**

9. Energy, demand and customer number forecasts

9.1 Overview

The Draft Decision accepted Multinet's forecasts of energy consumption and customer numbers.

Accordingly, Multinet's revised access arrangement proposal is based on the customer number and gas consumption forecasts set out in the company's March 2012 AAI and accepted by the AER.

9.2 Draft Decision

The AER reviewed Multinet's customer number and gas consumption forecasts. Page 56 of Part 1 of the Draft Decision stated:

> "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."

In relation specifically to customer number forecasts page 192 of Part 2 of the Draft Decision stated:

- The AER considers that Multinet's proposed tariff V (domestic) customer numbers are arrived at on a reasonable basis and represent the best forecast possible in the circumstances.
- The AER considers the forecast for Tariff D customer numbers is arrived at on a reasonable basis and represents the best forecast possible in the circumstances.

9.3 Multinet response

In accordance with the Draft Decision, Multinet's revised access arrangement proposal is based on the customer number and gas consumption forecasts set out in the company's March 2012 AAI and accepted by the AER.

It is noted that although the AER has accepted Multinet's forecasts of customer numbers, it has adjusted down Multinet's forecast of new residential connections for the purpose of deriving a capital expenditure allowance for residential connections over the forthcoming access arrangement period. As explained in section 3.3.4 of this response, Multinet's forecast of new customer connection capital expenditure corrects this error, and is based on the customer number forecasts approved by the AER in the Draft Decision.

10. Tariffs

10.1 Draft Decision

Page 57 of the Draft Decision stated:

> "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."

10.2 Multinet response

Multinet's revised Access Arrangement implements the structure of reference tariffs as approved in the AER's Draft Decision.

The quantum of Multinet's revised proposed reference tariffs reflect:

- Multinet's revised forecast of total revenue, as set out in Chapter 8 of this document; and
- the gas consumption and customer number forecasts accepted by the AER's Draft Decision, as noted in Chapter 9 of this document.

11. Reference tariff variation mechanisms

11.1 Draft Decision and issues arising

The Draft Decision did not approve Multinet's proposed tariff variation mechanisms for the forthcoming access arrangement period. The AER considered that some elements of Multinet's proposed tariff variation mechanisms are not consistent with the National Gas Law and Rules, or that there are alternatives to some elements of Multinet's proposal that better meet the national gas objective and the revenue and pricing principles.

Specifically, the AER considered that:

- The proposed magnitude and level of the rebalancing constraint, the variation process and certain elements in the cost pass through tariff variation mechanism are not consistent with rule 97.
- The proposed financial failure of a retailer must be removed from the cost pass through mechanism.
- The proposed force majeure event must be removed and replaced with a terrorism event and a natural disaster event.
- 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 capital expenditure; and
    - a National Energy Consumer Framework (NECF) event to provide for recovery of operating expenditure changes 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.

11.2 Multinet response

Multinet's responses on the issues arising from the Draft Decision are set out under separate subheadings below.

11.2.1 Rebalancing constraint and tariff variation mechanism

Multinet accepts the AER's Draft Decision and has amended its proposed rebalancing constraint accordingly.

Multinet's revised Access Arrangement reflects the changes it considers that are necessary to address the matters raised by the AER in relation to the tariff variation process and certain elements in the cost pass through tariff variation mechanism. Further details are provided in the table in section 13.7.

11.2.2 Financial failure of retailer and force majeure

Multinet's proposed credit support arrangements are based on credit rating and also payment timeliness. The AER contends that Multinet should be faced with similar risks to that of an unregulated business. An unregulated business would typically receive funds for services provided within 30 days, not some 40 to 90 days after the services are provided. In addition, in the event that an unregulated business is not paid within a reasonable period, that business is at liberty to cease to provide services. The same risk mitigation methods are not available to Multinet.

The NECF provides a pass through arrangement for recovery of unpaid distribution services charges. In addition, under the NECF, no materiality threshold applies in relation to the recovery of these costs. Recovery of unpaid distribution services charges is consistent with the national gas objective and the revenue and pricing principles. It is clear that policy makers intend that distributors be able to fully recover such costs.

The NECF has not yet been implemented in Victoria, therefore Multinet considers that its proposed pass through event is still required, to ensure that a cost recovery mechanism is available to it, consistent with that available in jurisdictions that have already adopted the NECF. On this basis, Multinet's revised proposal does not implement the AER's required amendment. Multinet also considers that the threshold it originally proposed is appropriate for this type of pass through event.

Multinet has accepted the AER's Draft Decision in relation to the removal of force majeure events from the cost pass through mechanism.

11.2.3 Low pressure mains replacement pass through event

Multinet accepts the AER's proposal to introduce a pass through event for this category of work. Accordingly, a pass through event has been included in Multinet's revised Access Arrangement. The definition of the pass through event differs from that set out in the Draft Decision as follows:

- Multinet proposes that the event to be based on a volume of 274 km (as opposed to 240km). This is consistent with Multinet's revised capital program, which is based on sound engineering assessment as set out in section 3.3.2 of this document.

- Multinet proposes that the pass through mechanism should be available to be applied annually, on a cumulative basis. As explained in section 3.3.2, the annual target be set at 55 km. An annual pass through event will provide scope for better alignment of Multinet's project cash flows and revenues. This is superior to the AER's proposal, under which Multinet would be exposed to additional funding costs if the company is required to exceed the capital expenditure allowance.

11.2.4 National Energy Customer Framework

Multinet accepts the AER's Draft Decision, and welcomes the AER's decision to not impose a cost threshold. A pass through event has been included in Multinet's revised Access Arrangement in accordance with the Draft Decision.

12. Efficiency incentive mechanisms

12.1 Overview

The Draft Decision accepted, with modifications, Multinet's proposed operating expenditure incentive mechanism, which will operate from the commencement of the forthcoming access arrangement period.

The Draft Decision rejected Multinet's proposed capital expenditure incentive mechanism.

This chapter sets out Multinet's revised proposals in relation to the operating and capital expenditure incentive mechanisms (respectively) in sections 12.2 and 12.3 below.

12.2 Efficiency incentive mechanism for operating expenditure

12.2.1 Overview of Draft Decision

The Draft Decision accepted Multinet's proposal to apply an incentive mechanism to operating expenditure. However, the AER stated that there are a number of aspects of Multinet's proposal that require further clarification in order to make the incentive mechanism consistent with rule 98 and the revenue and pricing principles.

12.2.2 Multinet response

Multinet has not implemented the Draft Decision's revisions to the operating expenditure incentive mechanism.

Multinet notes that pages 180 and 181 of the Draft Decision state:

> "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."

It is not clear why this formula refers to actual and forecast values of operating expenditure in 2011 and 2012. In addition, it is not clear whether that formula (above) is consistent with the formula for estimating operating expenditure in 2017 as set out in point 5 on page 181 of the Draft Decision.

In view of these considerations, Multinet's revised Access Arrangement implements the operating expenditure efficiency incentive mechanism as proposed originally in its March 2012 AAI.

12.3 Efficiency incentive mechanism for capital expenditure

12.3.1 Overview of Draft Decision

The Draft Decision rejected Multinet's proposal for the following reasons:

- Service standard obligations are loosely defined for gas distribution businesses, giving rise to potential cost cutting at the expense of service standards rather than efficiency gains.
- Multinet's proposal to adjust capital expenditure benchmarks to reflect the volume of work undertaken would remove the incentive provided by cumulative carryover schemes to defer capex inappropriately, at the expense of service levels.

The Draft Decision stated that on balance, the AER considers that the regulatory regime already provides sufficient incentives for Multinet to deliver its capital expenditure program efficiently.

12.3.2 Multinet response

Multinet considers that the AER's position in response to the proposed capital expenditure efficiency incentive mechanism represents a lost opportunity to strengthen incentives. Nonetheless, for the purpose of this proposed Access Arrangement, Multinet proposes to accept the Draft Decision.

13. Pipeline services, terms and conditions, and other matters

13.1 Introduction

This chapter sets out Multinet's responses to the Draft Decision on a range of matters relating to the definition of the services offered by Multinet, the terms and conditions under which they are offered, and a number of other matters. This chapter is structured as follows:

- Section 13.2 addresses the review submission date and revision commencement date for the forthcoming access arrangement period.
- Section 13.3 .addresses matters relating to the definition of services covered by the Access Arrangement.
- Section 13.4 addresses queuing requirements.
- Section 13.5 addresses Multinet's proposed capacity trading requirements and treatment of change of receipt or delivery points.
- Section 13.6 addresses Multinet's extensions and expansions policy.
- Section 13.7 addresses matters relating to the terms and conditions under which reference services are provided.
- Section 13.8 sets out a summary of Multinet's responses to the AER's required revisions

13.2 Review submission date and revision commencement date

Multinet proposed that:

- The duration of the forthcoming access arrangement period will be five years.
- The review submission date is on or before 1 January 2017.
- The revision commencement date will be 1 January 2018.

The Draft Decision accepted Multinet's proposal in relation to review dates.

Accordingly, Multinet's revised access arrangement specifies the review dates set out above.

13.3 Services covered by the access arrangement

13.3.1 Draft Decision

Page 24 of Part 1 of the Draft Decision stated:

> "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."

13.3.2 Multinet response

Multinet has accepted the revised definition of a Reference Service proposed by the AER (which removes the words 'when sought by a retailer'). Multinet has made the necessary changes to its revised Access Arrangement.

13.4 Queuing requirements

Section 11.3 of Multinet's AAI explained that there are no Queuing requirements. Page 61 of Part 1 of the Draft Decision stated that the AER accepts Multinet's proposal in relation to queuing arrangements. Accordingly, Multinet's revised Access Arrangement is consistent with its proposal in relation to queuing arrangements.

13.5 Capacity trading requirements and treatment of change of receipt or delivery points

13.5.1 Draft Decision

The Draft Decision required minor amendments to be made to Multinet's proposed capacity trading requirements and terms and conditions for changing receipt and delivery points.

13.5.2 Multinet response

Multinet has accepted the AER's required revision and has amended its revised Access Arrangement as necessary.

13.6 Extensions and expansions policy

13.6.1 Draft Decision

The Draft Decision did not accept Multinet's extensions and expansions policy. The Draft Decision required Multinet to amend its proposal so that all low and medium pressure pipelines are covered by the access arrangement by default. The Draft Decision stated that 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.

13.6.2 Multinet response

The AER's proposed changes are unclear, in terms of the definition of high pressure pipelines which the AER considers should be assessed on a case by case basis. Multinet can accept the AER's proposed changes if the reference to 'high pressure pipelines' means a reference to 'Transmission Pipeline'.

However, Multinet cannot accept the proposed changes if the definition of 'high pressure pipeline' encompasses pipelines within the distribution network. This is because almost all extensions for

normal housing estates are reticulated using high pressure distribution network. The inclusion of such pipelines in the arrangements proposed by the AER would lead to virtually all extensions requiring coverage on a case by case basis. This would be impracticable and inefficient.

Multinet has therefore revised its Access Arrangement to give effect to the changes required by the Draft Decision, to clarify that for the purpose of the extensions and expansions policy, 'high pressure pipelines' refers to transmission pressure pipelines.

13.7 Terms and conditions

13.7.1 Draft Decision

Pages 61 and 62 of Part 1 of the Draft Decision states:

> "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.
>
> 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."

13.7.2 Multinet response

As requested, Multinet has consulted with retailers and other distributors during the consultation period. The table in the next section provides a summary of the changes made by Multinet to its proposed terms and conditions following the conclusion of its further consultations, and in response to the Draft Decision's required revisions.

13.8 Summary of Multinet's responses to the AER's required revisions

The table on the following pages provides a summary of the required revisions set out in the Draft Decision, and a summary of Multinet's response on each.

A table with more detailed responses, including retailer requested changes is in Appendix 13-1

Revision Number	Description	Accept / Reject
1.1	Amend clause 5.1.1 as follows: Delete 'when sought by a retailer' from the last line in the first paragraph	Accept
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	Partly accept
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	Reject
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	Partly accept
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.	Partly accept
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.	Partly accept
4.1	Make all necessary amendments to reflect the AER's draft decision on the rate of return, as reflected in Table 4.1	Reject
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	Partly accept
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 Table 5.4.1	Accept
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	Accept
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	Reject
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	Reject
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	Reject
7.3	Amend the access arrangement information to include Table 7.4	Reject
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	Reject
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	Reject

Revision Number	Description	Accept / Reject
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	Accept
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	Accept
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.	Reject
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.	Reject
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	Reject
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	Partly accept
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	Reject

Revision Number	Description	Accept / Reject
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	Reject
11.6	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. $MCTR_t = CTP_t - K_t$	Reject

Revision Number	Description	Accept / Reject
11.6 (cont.)	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	Reject

Revision Number	Description	Accept / Reject
11.7	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;	Accept
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.	Reject Reject

Revision Number	Description	Accept / Reject
11.8 (cont.)	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:	Partly Accept Reject

Revision Number	Description	Accept / Reject
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.	Partly accept

Revision Number	Description	Accept / Reject
11.9 (cont.)	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 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:	Partly accept

Revision Number	Description	Accept / Reject
11.9 (cont.)	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.	Partly accept

Revision Number	Description	Accept / Reject
11.9 (cont.)	• 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.	
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:	Partly accept

Revision Number	Description	Accept / Reject
11.10 (cont)	(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.	Partly accept
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'.	Accept
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.	Accept
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... Insert the following after the words 'ensure that Gas injected into the Distribution System': on its behalf	Partly Accept
12.4	Amend cl. 6.1(b) as follows: • Insert 'acting reasonably' before 'determine'.	Accept

Revision Number	Description	Accept / Reject
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.	Partly Accept
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.	Reject
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.	Accept
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.	Accept
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'	Accept
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.	Accept

Revision Number	Description	Accept / Reject
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.'	Accept
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'.	Accept
12.14	Delete cl. 13.5(c).	Reject
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.	Accept
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.	Accept
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.	Accept

Revision Number	Description	Accept / Reject
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.	Partly accept
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.	Accept
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.	Accept

14. Appendices

Ref	Title	Status
Part A	Principal Arrangements	Public
Part B	Reference Tariff and Reference Tariff Policy	Public
Part C	Terms and Conditions	Public
1-1	Post Tax Revenue Model	Public
1-2	Roll Forward Model	Public
2-1	Grant Thornton – Review of Multinet's Operating Forecasts	Confidential
2-2	AECOM	Public
2-3	AIA – Multinet's forecast maintenance and capital expenditure on metering	Public
2-4	ESV Levy	Public
2-5	Network Development Plan	Public
2-6	Metering Profile	Public
2-7	Opex by Source	Public
2-8	Frontier – Multinet Operating Expenditure Forecast	Public
2-9	BIS – Updated Labour Table	Public
2-10	Professor Borland – Forecasting WPI	Public
2-11	Ernst & Young Audit Reports - 2010	Confidential
2-12	Ernst & Young Audit Reports - 2011	Confidential
2-13	Statutory Declaration – Mark Beech	Confidential

Ref	Title	Status
3-1	MG Capex Model	Confidential
3-2	Large Diameter Medium Pressure Assets	Confidential
3-3	LP to HP Renewal areas and large diameter mains	Public
3-3	Large diameter mains assets in renewal areas	Public
3-5	Pipe works Unit Rate	Public
3-6	Large Diameter mains Failure History	Public
3-7	Large diameter replacement Project Routes	Public
3-8	Risk Assessment Aughtie Dr & Auburn Rd	Public
3-9	Kew hotel & Area Gas Leakage Reports	Public
3-10	Large Diameter LPDZ Maintenance History	Public
3-11	Small Diameter LPDZ Maintenance History	Public
3-12	Augmentation Detail Response	Public
3-13	BI Costs	Confidential
3-14	HANA & BO Rapid Marts Proposal	Confidential
3-15	SAP proposal to deploy PM reporting	Confidential
3-16	Syphon Photos	Public
3-17	Toorak Rd Regulator Mains Photos	Public
3-18	Johns Valves photos	Public
6-1	Advice on aspects of the cost of equity: Victorian Gas Access Arrangement Review 2013-2017	Public
6-2	Internal consistency of risk free rate and MRP I the CAPM	Public
6-3	Risk free rate and MRP	Public
6-4	Review of risk free rate and the cost of equity estimates: A comparison of UK approaches with the AER	Public

Ref	Title	Status
6-5	Response to Professor Lally's Analysis	Public
6-6	Establishing the Cost of Equity – Analysis of the Method used to establish the Risk Free Rate and the MRP	Public
6-7	Risk Free Rate and the Present Value Principle	Public
6-8	Estimating the Cost of Equity under the CAPM Expert report of Gregory Houston	Public
6-9	Economic interpretation of gas legal instruments: Expert Report	Public
6-10	The required return on equity: Response to AER Victorian Draft Decisions	Public
13.1	Changes to the Access Arrangements	Public

Further WACC supporting material

(All reports below can be made public)

Ref	Title	Date
A. Independent Pricing and Regulatory Tribunal Decisions		
1	Independent Pricing and Regulatory Tribunal (**IPART**), *Reviewing of water prices for Sydney Desalination Plant Pty Limited, from 1 July 2012,* Water – Final Report	December 2011
2	IPART, *Changes in regulated electricity retail prices from 1 July 2012,* Electricity – Final Report	June 2012
3	IPART, *Review of prices for the Sydney Catchment Authority, from 1 July 2012 to 30 June 2016,* Water – Final Report	June 2012
4	IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater drainage and other services, from 1 July 2012 to 30 June 2016,* Water – Final Report	June 2012
B. Ernst and Young – Advice on aspects of the cost of equity, November 2012		
1	Arafura Resources Limited, *Notice of Extraordinary General Meeting and Explanatory Memorandum to Shareholders*	September 2012

2	Aston Resources Limited, *Scheme Booklet*	9 March 2012
3	Bremer Park Limited, *Target's Statement*	3 October 2012
4	CMI Limited, *Notice of General Meeting and Notice of Special Meeting of Class A Shareholders*	11 April 2012
5	Consolidated Media Holdings, *Scheme Booklet*	24 September 2012
6	DUET Group, *ASX Release* attaching *Notice of Meeting and Explanatory Memorandum,* and *Prospectus*	10 October 2012
7	Genesis Resources Ltd, *ASX Announcement* attaching *Target's Statement*	14 June 2012
8	Gloucester Coal, *Explanatory Booklet*	27 April 2012
9	Hastings Funds Management, *Target's Statement*	3 August 2012
10	ING Real Estate Community Living Group, *Notice of Meeting* and Ingenia Communities Holding Limited, *Prospectus*	26 April 2012
11	Kip McGrath, *Notice of Extraordinary General Meeting and Explanatory Memorandum*	31 January 2012
13	Ludowici Limited, *Scheme Booklet*	10 April 2012
14	Nexbis Limited, *Scheme Booklet*	9 May 2012
15	Norton Gold Fields Ltd, *Target's Statement, Independent Expert Report,* and *Independent Technical Report and Mineral Asset Valuation*	18 July 2012
16	oOh!media Group Limited, *ASX Announcement* attaching *Scheme Booklet*	20 January 2012
17	Westgold Resources Limited, *ASX Announcement* attaching *Scheme Booklet*	23 August 2012
C. Alan Gregory, 'The AER Approach to Establishing the Cost of Equity – Analysis of the Method Used to Establish the Risk Free Rate and the Market Risk Premium, November 2012		
1	Gas and Electricity Markets Authority (**Ofgem**), *Transmission Price Control Review*, Final Proposals	4 December 2006
2	Ofgem, *Gas Distribution Price Control Review*, Final Proposals	3 December 2007
3	Competition Commission, *A Report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd)*	28 September 2007
4	UK Civil Aviation Authority, *Economic Regulation of Heathrow and Gatwick Airports 2008-2013*, Decision	11 March 2008
5	Office of Rail Regulation, *Periodic Review 2008*, Draft Determination	June 2008
6	Office of Rail Regulation, *Period Review 2008 – Determination of Network Rail's Outputs and Funding for 2009 - 14*	October 2008

7	Competition Commission, *Stansted Airport Ltd, Q5 Price Control Review*	23 October 2008
8	UK Civil Aviation Authority, *Stansted Airport CAA Price Control Proposals*	December 2008
9	Water Services Regulation Authority (Ofwat), Future Water and Sewerage Charges 2010-15, Final Determinations	November 2009
10	Competition Commission, *Hutchison 3G UK Limited v Office of Communications, British Telecommunications plc v Office of Communications,* Mobile Phone Wholesale Voice Termination Charges, Determination	16 January 2009
11	Office of Communications (**Ofcom**), *A New Pricing Framework for Openreach*, Statement	22 May 2009
13	Ofcom, *A New Pricing Framework for Openreach*, Statement - Annexes	22 May 2009
14	Competition Commission, *Sutton and East Survey Water plc Interim Price Determination,* Final Determination	17 August 2009
15	Ofgem, *Electricity Distribution Price Control Review,* Final Proposals – Allowed Revenues and Financial Issues	7 December 2009
16	Competition Commission, *Cable and Wireless UK v Office of Communications*, Determination	30 June 2010
17	Competition Commission, Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991, Report	4 August 2010
18	Competition Commission, *The Carphone Warehouse Group plc v Office of Communications* (LLU), Determination	31 August 2010
19	Ofcom, *Wholesale Mobile Voice Call Termination*, Statement	15 March 2011
20	Ofgem, *TPCR4 Rollover*, Final Proposals	28 November 2011
21	Competition Commission - *British Telecom plc v Office of Communications, Everything Everywhere Limited v Office of Communications, Hutchison 3G UK Limited v Office of Communications, Vodafone Limited v Office f Communications* and *Telefónica UK Limited* - Determination	9 February 2012
22	Ofcom, *Charge Control Review for LLU and WLR Services*, Statement	7 March 2012
23	Ofcom, *Charge Control Review for LLU and WLR Services*, Annexes	7 March 2012
24	Competition Commission, *British Telecommunications plc v Office of Communications supported by British Sky Broadcasting Limited Talk Talk Telecom Group plc*, Determination	11 June 2012
D. Stephen Wright, 'Review of Risk Free Rate and Cost of Equity Estimates: A Comparison of UK Approached with the AER', 25 October 2012		
1	Mason, R., Miles, D and Wright, S, *A Study into certain aspects of the cost of capital for regulated utilities in the UK*, Smithers & Co Ltd report to a consortium of UK regulators	13 February 2003

2	Ofgem, *Electricity Distribution Price Control Review: Background information on the cost of capital*	March 2004
3	Ofgem, *Electricity Distribution Price Control Review: Final Proposals*	November 2004
4	Baskaya, M., Hori, K., Mason, R., Satchell S. and Wright, S, *Report on the Cost of Capital provided to Ofgem*, Smithers & Co Report	1 September 2006
5	Ofgem, *Gas Distribution Price Control Review*, Final Proposals **(refer to Document 2 in Part C)**	3 December 2007
6	Ofgem, *Electricity Distribution Price Control Review: Initial consultation document*	28 March 2008
7	Competition Commission, *Stansted Airport Ltd, Q5 Price Control Review* **(refer to Document 7 in part C)**	23 October 2008
8	Ofgem, *Electricity Distribution Price Control Review,* Final Proposals – Allowed Revenues and Financial Issues **(refer to Document 14 in Part C)**	7 December 2009
9	Competition Commission, *Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991*, Report **(refer to Document 16 in Part C)**	4 August 2010
10	Ofgem, *Decision on strategy for the next gas distribution price control – RIIO-GD1*	31 March 2011
11	Ofgem, *TPCR4 Rollover*, Final Proposals **(refer to Document 20 in Part C)**	28 November 2011
12	Ofgem, *RIIO-GD1: Initial Proposals – Overview*	27 July 2012
E. NERA Economic Consulting, 'Estimating the Cost of Equity under the CAPM', November 2012		
1	Office of the Regulator General, Victoria, *Access Arrangements for Multinet, Westar and Stratus,* Final Decision	October 1998
2	Australian Competition and Consumer Commission (**ACCC**), *Statement of Principles for the Regulation of Transmission revenues* (Draft)	27 May 1999
3	ACCC, *Review of the Draft Statement of Principles for the Regulation of Transmission Revenues,* Discussion Paper	August 2003
4	Ofwat, *Future Water and Sewerage Charges 2005-2010*, Final Determinations	2 December 2004
5	ACCC, *Statement of Principles for the regulation of electricity transmission revenues - background paper,* Decision	8 December 2004
6	Ofcom, *Ofcom's Approach to Risk in the Assessment of the Cost of Capital,* Final Statement	18 August 2005

7	Ofwat, *Future Water and Sewerage Charges 2010-15*, Final Determinations **(refer to Document 9 in Part C)**	November 2009
8	Franks, Julian, Lally, M and Myers, S, "*Recommendation to the New Zealand Commerce Commission on whether or not it should change its previous estimate of the tax adjusted market risk premium as a result of the recent global financial crisis*",	14 April 2010
9	Regulatory Research Associates, *Regulatory Focus Major Rate Case Decisions – January-March 2012*	5 April 2012
F. Other Supporting Material		
1	Reserve Bank of Australia, *Bulletin June Quarter 2012*	June 2012
2	Reserve Bank of Australia, *Statement on Monetary Policy*	August 2012
3	Standard & Poor's, Standard & Poor's Research, *Sector Review: Australian Network Utilities: Draft Reforms Give Regulators More Flexibility, But Raise Credit Risk*	22 October 2012