NERA
ECONOMIC CONSULTING

Benchmark Study of Contractor Profit Margins (2002-2011)

Envestra

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Executive Summary

i. In 2007 NERA was retained by Envestra to assess the consistency of the fee paid to its asset management service provider with the margins earned by contractors providing comparable services to those procured under Envestra's Operating and Management Agreements (OMAs). A benchmark study of the margins earned by contractors providing asset management services was therefore undertaken and formed part of a broader submission[1] that was provided to the Victorian Essential Services Commission (ESC) for consideration during the 2008-2012 gas access arrangement review.

ii. The principal finding of this benchmark study was that while the implied earnings before interest and tax (EBIT) [2] margin paid by Envestra over the period 2002-2006 was *marginally higher* than the average EBIT margin earned by contractors providing comparable asset management services, it was *within* the 95 per cent confidence interval for the true population mean and could therefore be viewed as being consistent with the margins generated by other contractors.[3,4]

iii. In 2010 I was asked by Envestra to update the 2007 study and a description of both the methodology and the findings emerging from this study were set out in a report entitled, *Benchmark Study of Contractor Profit Margins,* which was provided to the Australian Energy Regulator (AER) for consideration during the 2011–2016 South Australian and Queensland gas access arrangement reviews. The results of the updated study revealed that over the period 2005-2009, the mean implied EBIT margin paid by Envestra was *lower* than the average margin received by 22 other providers of asset management services and toward the *lower end* of the 95 per cent confidence interval for the true population mean.[5,6]

iv. Over a year has elapsed since the study was last undertaken and in that period there has been some movement in the EBIT margins earned by contractors. I have therefore been asked by Johnson Winter & Slattery (JWS), on behalf of Envestra, to update the benchmark study of contractor profit margins and to prepare an expert report that can be

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1 The three reports prepared by NERA on this issue that were submitted to the ESC were:

- NERA, *Outsourcing by regulated businesses*, 28 March 2007;
- NERA, *Benchmarking contractor's profit margins*, 28 March 2007; and
- NERA, *Allen Consulting Group's Review of NERA's Benchmarking of Contractors' Margins Critique*, Oct 2007.

2 The EBIT margin in this context represents the amount received by the contractor in *excess* of that which is required to recover directly incurred expenses, overheads and a return of capital. It therefore provides a measure of the funds available to a contractor to pay taxes and a return on physical and intangible assets and may also include any allowance paid to the contractor to align its interests with those of the asset owner.

3 NERA, *Allen Consulting Group's Review of NERA's Benchmarking of Contractors' Margins Critique*, Oct 2007, p14.

4 Over the period 2002 to 2006 the mean EBIT margin earned by the contractors included in the sample was 5.5 per cent while the 95 per cent confidence interval surrounding this estimate ranged from 4.3 per cent to 6.7 per cent. Over the same period, the mean OMA implied EBIT margin was 6.4 per cent, which was *higher* than the sample average but within the 95 per cent confidence interval.

5 NERA, *Benchmark Study of Contractor Profit Margins*, September 2010, p24.

6 Over the period 2005 to 2009 the mean EBIT margin earned by the contractors included in the sample was 6.4 per cent while the 95 per cent confidence interval surrounding this estimate ranged from 5.4 per cent to 7.4 per cent. Over the same period, the mean OMA implied EBIT margin was 5.8 per cent, which was 0.6 per cent *lower* than the sample average and toward the *lower end* of the 95 per cent confidence interval.

submitted to the AER for consideration during the 2013-2017 Victorian gas access arrangement review.

v. The results of the latest study reveal the following:

- Over the entire ten year sample period (2002-2011) the average EBIT margin earned by the contractors included in the All Infrastructure[7] sample was 5.6 per cent while the 95 per cent confidence interval for the true population mean ranged from 4.8 per cent to 6.4 per cent. Over the same period, the mean implied EBIT margin paid by Envestra to its asset management service provider was 6.4 per cent, which was at the upper bound of the 95 per cent confidence interval for the true population mean; and
- Over the last five years (2007-2011) the average EBIT margin earned by the contractors included in the All Infrastructure sample was 6.3 per cent while the 95 per cent confidence interval surrounding this estimate ranged from 5.4 per cent to 7.2 per cent. Over the same period, the mean implied EBIT margin paid by Envestra to its asset management service provider was 6.1 per cent, which was 0.2 per cent *lower* than the sample average and toward the middle of the 95 per cent confidence interval for the true population mean.

vi. In short, the results demonstrate that the fee paid by Envestra to its asset management service provider continues to remain *in line* with the margins earned by other contractors providing comparable asset management services to third parties.

vii. One final point that is worth making in this context is that while I recognise that a benchmark study of this nature cannot, in and of itself, be relied upon to demonstrate the compliance of an outsourcing contract with the National Gas Rules (NGR), it *can* be used to assess whether the margin payable under an outsourcing contract is consistent with the margins earned by other contractors providing comparable asset management services to third parties. It can therefore be used to determine whether the margin component of an outsourcing contract's pricing structure is consistent with the 'prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost' benchmark embodied in rule 91(1) of the NGR. In Envestra's case the benchmark study shows that the fee paid to APA is consistent with the margins earned by other contractors. I am therefore of the opinion that the fee paid by Envestra should be viewed as being consistent with the principles embodied in rule 91(1) of the NGR.

[7] The All Infrastructure sample consists of 22 companies/business units providing asset management services to any type of infrastructure.

1. Introduction

1.1 My name is Katherine Lowe and I am a Senior Consultant at NERA Economic Consulting (NERA). I have over ten years professional experience working as an economist and hold both a Master of Economics from the University of Sydney and a Master of Applied Finance from Macquarie University. A copy of my curriculum vitae is attached at Appendix D.

1.2 I have been asked by Johnson Winter & Slattery (JWS), on behalf of Envestra, to update the benchmark study of margins earned by contractors providing similar services to those procured by Envestra under its Operating and Management Agreements (OMAs) that was originally undertaken in 2007 and was last updated in 2010. I have also been asked to respond to the methodological and other matters raised by the Australian Energy Regulator (AER) in Appendix C of the *Final Decision – Access arrangement proposal for the SA gas network* (South Australian Final Decision).

1.3 These matters are addressed, in turn, in the remainder of this report, which I have structured as follows:

- Chapter 2 provides an overview of the OMAs that Envestra has entered into, with particular emphasis placed on the services procured by Envestra, the pricing mechanism and the current provider of asset management services, the Australian Pipeline Trust (APA);
- Chapter 3 describes the methodology that I have employed when undertaking the study;
- Chapter 4 compares the margins earned by contractors providing comparable services to those procured under the OMAs with the fee paid by Envestra to its asset management service provider over the period 2002-2011;
- Chapter 5 contains my response to the methodological matters raised by the AER about the benchmark study in the South Australian Final Decision; and
- Appendix A provides an overview of the companies included in the benchmark study.

1.4 In keeping with my instructions, I confirm that I have read, understood and complied with the Guidelines for Expert Witnesses in Proceedings in the Federal Court of Australia, as set out in Practice Note CM 7. I can also confirm that the opinions set out in this report are wholly or substantially based upon my economic and applied finance expertise. A statement of my compliance with Practice Note CM 7 is set out in Appendix B. I have been assisted in the preparation of this report by Tom Graham,[8] an Analyst in NERA's Sydney office. Notwithstanding this assistance, the opinions in this report are my own. A list of the material that I have relied upon in the preparation of this report is contained in Appendix C.

[8] Tom Graham holds a Bachelor of Commerce degree (with First-Class honours) from the University of Otago, New Zealand.

2. Operating and Management Agreements

2.1 In 1997 Envestra entered into an agreement with Boral Energy Asset Management (BEAM) (later Origin Energy Asset Management (OEAM)) for the provision of operating, maintenance and asset management services to the Queensland and South Australian gas distribution networks. The terms of this agreement were set out in an OMA, dated 30 June 1997. In 1999 Envestra acquired the Stratus gas distribution network in Victoria and around this time entered into another agreement with BEAM (later OEAM) for the provision of operating, maintenance and asset management services to this asset.[9]

2.2 In 2007 Origin Energy sold OEAM and its 17.2 per cent interest in Envestra to APA.[10] Following APA's acquisition of OEAM, Envestra and APA entered into new agreements for the provision of services to Envestra's South Australian, Queensland, Victorian and New South Wales assets. The terms of these agreements are set out in the following OMAs:

- Queensland, South Australian and Northern Territory OMA – Amendment and Restatement Deed – Operating and Management Agreement, 2 July 2007; and
- Victorian and Albury OMA – Amendment and Restatement Deed – Operating and Management Agreement (Stratus), 2 July 2007.

2.3 Following Envestra's acquisition of the Wagga Wagga distribution network, Envestra and APA entered into the NSW (Wagga Wagga) – Operating and Management Agreement, dated 8 April 2011.

2.4 The remainder of this chapter provides further detail on:

- the services procured by Envestra under the OMAs;
- the pricing mechanism specified within the OMAs; and
- the current provider of asset management services under the OMAs: APA.

2.1. Services procured by Envestra

2.5 Under the terms of the OMAs, APA is required to provide the following services to Envestra's Victorian distribution networks:[11]

- manage the haulage of gas, including negotiating contracts with shippers for the haulage of gas and for associated services, including forecasting and managing network capacity;
- provide all services, labour and materials necessary to operate and maintain each network (including periodic pipeline replacement);

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9 Operating and Management Agreement (Stratus), 9 March 1999, Envestra Victoria Pty Ltd and Boral Energy Asset Management Ltd.

10 Origin Energy, *ASX Media Release – Origin Energy finalises sale of Network Business to APA*, 2 July 2007.

11 Clause 4.2 of the Amendment and Restatement Deed – Operating and Management Agreement (Stratus), 2 July 2007 and Clause 4.2 of the Amendment and Restatement Deed – Operating and Management Agreement, 2 July 2007.

- § assist Envestra with the development of regulatory submissions;
- § initiate, promote and engage in industry support activities that are designed to promote the growth in the volume of gas hauled through Envestra's networks through both increased utilisation and expansion;
- § plan, design and construct network extension;
- § read meters, issue invoices and collect and account for network revenue;
- § disconnect customers;
- § odorise the gas hauled through the network; and
- § prepare and settle with Envestra a budget for each financial year and prepare a report that compares its actual performance with budgeted performance.

2.2. Pricing mechanism

2.6 The pricing mechanism in the OMAs allows APA to recover the following:[12,13]

- § all expenses it *reasonably* incurs in the provision of the services;
- § government charges;
- § the costs associated with acquiring system use gas;
- § 33 per cent of the value of any annual real reductions in:
  - – controllable costs per GJ; and
  - – costs per connection of new customers; and
- § a Network Management Fee (NMF) equal to 3 per cent of Envestra's network revenues.

2.7 Notable features of this pricing mechanism include:

- § the cost pass-through component, which is subject to both a 'reasonably incurred' test and a 2 per cent budget constraint.[14] These two aspects of the price mechanism

[12] Section 10 of the Amendment and Restatement Deed – Operating and Management Agreement (Stratus), 2 July 2007 and Section 10 of the Amendment and Restatement Deed – Operating and Management Agreement, 2 July 2007.

[13] Under the contract Envestra is also required to pay the costs and expenses incurred by APA consequent upon employees being made redundant.

[14] Clause 3.3(e) of the Amendment and Restatement Deed – Operating and Management Agreement (Stratus) states that APA shall not, without the prior consent of Envestra, incur expenditure for operating expenses unless, in its reasonable opinion, the aggregate of anticipated expenditure plus the sum of all expenditure already incurred in the financial year plus the further forecast expenditure will not exceed by more than 2 per cent the allowance for operating expenditure in the budget unless it is necessary to anticipate or respond to any emergency or an incremental matter to ensure continuation of operation of the networks in accordance with a new, or a change in a, legal and prudential standard occurring during the financial year covered by the budget. Clause 3.3(f) similarly prevents APA from incurring expenditure for capital expenditure that exceeds the budgeted allowance by more than 2 per cent unless it is necessary to anticipate or respond to any emergency or an incremental matter to ensure continuation of operation of the networks in accordance with a new, or a change in a, legal and prudential standard occurring during the financial year covered by the budget.

limit the exposure of Envestra and users of the Victorian distribution networks to any significant cost overruns;

- the capital and operating expenditure based incentive mechanisms are designed to encourage APA to pursue real reductions in controllable costs and connection costs on an ongoing basis. When coupled with the cost pass-through mechanism, this incentive mechanism ensures that efficiency gains are passed through immediately to Envestra via lower operating costs and to users at the next regulatory reset; and
- the NMF, which in combination with the operating and capital expenditure based incentive mechanism and the cost pass-through mechanism outlined above, is designed to align APA's incentives with Envestra's joint objective of minimising costs and maximising revenue. Further insight into the purpose of the NMF can be found in the following extracts taken from the Australian Competition Tribunal's (Tribunal) *Application by Envestra Limited (No. 2)* [2012] ACompT 3 (herein referred to as the 'SA decision'):[15]

> "…the NMF was a payment required to access the management services of APA."
>
> "… the NMF is not a one-off cost to improve the efficiency of the management of the network. It is a fee that must be paid every year in order to have access to the efficiencies offered by APA. If the NMF is required to be paid in one year in order to access the efficiencies provided by APA, unless circumstances change, the NMF will have to be paid in the following year, and the year after, in order to ensure APA continues to manage the network. APA may well refuse to operate the network if Envestra ceased paying the fee. In this sense, it is not appropriate to think of the NMF as a once-off efficiency improving mechanism."

2.8 The latter two of these components of the pricing mechanism represent the fee payable by Envestra to its asset management service provider.

2.3. Asset management service provider

2.9 APA became the provider of services under the OMAs following the acquisition of OEAM and a 17.2 per cent interest in Envestra from Origin Energy in July 2007. At the time this transaction was entered into the CKI Group was Envestra's largest shareholder, holding a 19.97 per cent interest in the company.[16] Since entering into the OMAs, APA's interest in Envestra has risen to 32.7 per cent and it is now the largest shareholder, followed by the CKI Group (19.2 per cent).[17] While APA is now the largest shareholder of Envestra, neither Envestra nor APA form part of the same group of companies.

2.10 In addition to holding a stake in Envestra, APA has an interest in a large number of assets in its own right and provides asset management services to 55 assets, nine of which are owned by Envestra. Table 2.1 identifies those assets that APA provides

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[15] *Application by Envestra Limited (No. 2)* [2012] ACompT 3, paras 261 and 264.

[16] Envestra Ltd, *South Australian Access Arrangement Information*, September 2010, p53.

[17] Envestra website, http://www.envestra.com.au/investor-centre/shareholder-information/top-20-shareholders, as at 7 March 2012.

asset management services to that Envestra has *no* direct or indirect interest in. As the information in this table reveals, APA provides asset management services to:

- 37 gas pipelines and one ethane pipeline;
- two electricity interconnectors and two power stations;
- two coal seam methane processing plants;
- a number of reticulated LPG systems; and
- two gas storage facilities.

Table 2.1: Assets serviced by APA *excluding* those owned by Envestra

		Asset name	Asset Ownership
Gas Pipeline Assets			
NSW and ACT	T	Moomba to Sydney Pipeline (MSP)	APA
		Interconnect	APA
		Central West Pipeline (CWP)	APA
		Central Ranges Pipeline	APA
		Central Ranges Network	APA
Vic	T	Principal Transmission System (PTS)	APA
SA	T	SEA Gas Pipeline	APA (50%) and REST Superannuation Fund (50%)
		SESA Pipeline	APA
Qld	T	Roma to Brisbane (RBP)	APA
		Carpentaria Gas Pipeline (CGP)	APA
		Berwyndale to Wallumbilla Pipeline (BWP)	APA
	D	Allgas Energy Distribution System	Energy Infrastructure Investments, APA 19.9% interest
WA	T	Goldfields Gas Pipeline	APA 88.2% BBP 11.8%
		Midwest Gas Pipeline	APA 50%, Horizon 50%
		Kalgoorlie to Kambalda Lateral	APA
		Telfer Gas Pipeline	Energy Infrastructure Investments, APA 19.9% interest
		Parmelia Gas Pipeline	APA
		Wiluna Gold Gas Lateral	APA
		Cape Lambert, Dampier, Paraburdoo and YMP Gas Pipeline	Pilbara Iron
		Nifty Consumer Gas Pipeline	Birla Nifty Pty Ltd
		Plutonic Gas Lateral	Barrick Gold
		Maitland Gas Lateral	EDL Group Operations Pty Ltd
		Onslow Gas Pipeline	Horizon Power
		Burrup Fertilizer	Apache Energy Pty Ltd
		Cawse Gas Lateral	Norilsk Nickel Cawse Pty Ltd
		Cosmos Gas Lateral	Xstrata Nickel Australasia Operations Pty Ltd
		Jundee Gas Lateral	Newmont Yandal Operations Pty Ltd
		Leonora Gas Lateral	Energy Generation
		Thunderbox Gas Lateral	Norilsk Nickel Wildara NL
		Jaguar Lateral	Jabiru Metals Ltd
		Magellan Gas Lateral	Redback Pipelines Pty Ltd
		Cockburn Cement Delivery Station (Dongara Pipeline)	Origin Energy Pipelines Pty Ltd
		Woodada Receipt Facilities	Arc Energy Ltd
NT	T	Amadeus Basin to Darwin Pipeline (ABDP)	APA
		Bonaparte Gas Pipeline	Energy Infrastructure Investments, APA 19.9% interest
		Wickham Point Pipeline	Energy Infrastructure Investments, APA 19.9% interest
	D	Darwin Distribution System	APA
Other Assets			
Moomba to Sydney Ethane Pipeline			Ethane Pipeline Income Fund, APA 6.1% interest
Murraylink and Directlnk electricity interconnectors			Energy Infrastructure Investments, APA 19.9% interest
Daandine and X41 power stations			Energy Infrastructure Investments, APA 19.9% interest
Tipton West and Kogan North coal seam methane processing plants			Energy Infrastructure Investments, APA 19.9% interest
Reticulated LPG System in Queensland, Northern NSW, SA and NT			Origin Energy LPG Ltd
Dandenong LNG Facility (Vic) and Mondarra Gas Storage Facility (WA)			APA

3. Benchmark Study Methodology

3.1 The methodology underlying this benchmark study has been developed to enable the fee paid by Envestra to its asset management service provider to be compared with the margins earned by other providers of asset management services in a standardised manner. The remainder of this chapter describes the more fundamental aspects of the methodology underpinning the benchmark study, including:

- the metric used to measure the margins earned by contractors;
- the factors considered when selecting the sample of 'comparable' contractors;
- the period over which margins have been measured; and
- the statistical measures used to assess the consistency of the fee paid by Envestra (measured as a percentage of the revenue earned by its asset management service provider) with the margins earned by comparable contractors.

3.1. Measurement of margins

3.2 Before describing the metric that I have used to measure the margins earned by contractors, it is useful to set out what a margin is intended to reflect and the factors that may influence the margin that a contractor actually earns.

3.1.1. Margins earned by contractors

3.3 The price specified in an outsourcing arrangement will generally incorporate either an implicit or an explicit margin. The payment of such a margin, which I define in this context as an amount in excess of the contractor's directly incurred expenses, is consistent with predictions of economic theory and industry practice, and will tend to reflect a range of costs and risk allowances that are not otherwise captured in the contractor's directly incurred expenses, such as:

- the return on and return of capital required by the contractor to compensate it for the use of both the *physical* and *intangible* assets used in the provision of services;
- the allowance required to enable the contractor to recover its common costs; and
- the allowance required by the contractor to self insure against the asymmetric risks posed by the contract.

3.4 Each of the factors listed above represents a legitimate cost that a contractor should reasonably expect to be able to recover through the contract price, and as such, reflects costs that a prudent service provider acting efficiently to achieve the lowest sustainable cost of providing the services should expect to pay. As noted by both the Essential Services Commission in the 2008-2012 gas access arrangement review:

> "…any third party contractor will require compensation for its endeavours over and above the actual cost of undertaking the contracted activities. A third party contractor would expect to be able to recover all of the economic costs that it incurs to provide the outsourced activity and would expect to benefit from superior performance. Otherwise it would not contract to undertake those activities. Such

> compensation is not necessarily inconsistent with an efficient level of costs, particularly where the contractor has the ability to provide the service at a lower cost than the distributor could do so itself or obtain elsewhere. Further payments above direct costs may, as NERA suggested, also provide a return to the contractor for:
>
> – the assets employed by it in the provision of the outsourced services
> – efficiencies on the part of the contractor over the life of the contract
> – the contractor's common costs." [18]

3.5 The margin to be paid under an outsourcing arrangement can take a variety of forms and may be defined explicitly or implicitly depending on the pricing mechanism adopted in the contract. The two most basic forms that the pricing mechanisms can take are:

- *the fixed price contract* – under a fixed price contract the margin is equal to the difference between the actual expenditure the contractor incurs and the fixed price specified in the contract. Since the margin earned by a contractor operating under a fixed price contract depends on the costs that it incurs in the delivery of the services, the margin may vary from year to year and may even be negative in circumstances where actual expenditure is higher than the contract payment. In circumstances where the fixed price contract operates over a number of years, the potential for outturn costs to diverge from the forecast used to derive the fixed fee is heightened and so the margins generated on contracts of this form may exhibit considerable volatility over the duration of the contract; and
- *the cost pass-through contract* – under a cost pass-through contract the margin payable to the contractor will usually be defined explicitly in the contract. It is important to recognise with these types of contracts that while a margin may be defined explicitly the *actual* margin the contractor receives will depend on whether the cost pass through component includes or excludes the recovery of other costs such as common costs and depreciation. The actual margin received by the contractor will also depend on whether the margin is specified as a fixed dollar amount or expressed as a percentage of a specified variable (eg, contractor's costs (a cost plus mark-up mechanism) or the profits/revenue generated by the asset owner). The margin received by a contractor operating under a cost pass-through contract may therefore vary from year to year depending on the way in which the margin is calculated.

3.6 It is important to note in this context that the margin a contractor actually receives (*ex post* margin) may differ from the margin that it expects to receive (*ex ante* margin) if actual events differ from what was anticipated when the price was struck under the outsourcing arrangement. Consider for example a contractor operating under a fixed price contract. If the contractor expected its costs to be $100 and also expected to earn a 10 per cent margin then it would set the price at $110. If the actual costs the contractor incurred turned out to be $90 rather than $100 then the margin it actually earned would be 22 per cent, which is higher than the expected margin. Conversely, if

[18] Essential Services Commission, *Gas Access Arrangement Review 2008-2012: Draft Decision*, August 2007, p52.

the costs that the contractor incurred turned out to be more than it anticipated then the margin would be lower than expected and could even be negative if out-turn costs exceed the fixed price specified in the contract. Similar issues can arise under a cost pass-through contract if the basis for the payment of the margin differs from what was anticipated.

3.7 Performance guarantees and/or penalty clauses are another factor that can cause the actual margin received by a contractor to differ from the margin that it expected to earn when it entered into the contract and may give rise to a negative margin if the contractor fails to adhere to the relevant provisions.

3.8 It follows from the preceding discussion that the margin earned by contractors may vary across contracts and over time depending on:

- the pricing mechanism adopted in the contractor's outsourcing contracts;
- the performance guarantees and/or penalty clauses specified in a contract; and
- the extent to which a contractor can diversify individual contractual risks across a portfolio of outsourcing contracts.

3.9 In the following section I describe the metric that I have used to measure the margins earned by contractors.

3.1.2. Margin metric

3.10 To enable the margins earned by contractors providing comparable services to those procured by Envestra to be compared in a standardised manner, I have used the earnings before interest and tax (EBIT) margin metric. The EBIT margin is an accounting based measure that is calculated as follows:

$$\text{EBIT margin} = \frac{\text{EBIT}}{\text{Revenue}}$$

The EBIT term in this formulation measures the difference between revenue and operating expenses (where operating expenses includes directly incurred expenses, depreciation,[19] amortisation and common costs) and so provides a measure of the funds available to a contractor to pay taxes and a return on physical and intangible assets.[20] The EBIT margin standardises this profit measure for the scale of operations by measuring the funds available for these purposes on a 'per unit of revenue' basis. [21]

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[19] The earnings measure after depreciation is the relevant measure to use because under the OMA Envestra owns the plant, property and equipment used in the provision of services and thus APA should receive only a minimal return of capital for smaller assets such as motor vehicles and information technology.

[20] The EBIT margin may also incorporate the allowance paid to the contractor to align its interests with those of the asset owner.

[21] It is worth noting in this context that while many companies report EBIT there are many other companies that simply report all sources of revenue and costs while others separately report earnings before interest tax depreciation and amortisation (EBITDA) and depreciation and amortisation (DA). In these circumstances the EBIT measure has been calculated using the information contained in the annual reports. For example, where EBITDA has been reported EBIT

3.11 As an *ex post* measure, the EBIT margin reflects the realisation of positive and negative events on earnings and as a consequence may differ from the margin that the contractor expected to earn if actual events differ from what was anticipated when the price was struck. The EBIT margin may also vary over time depending on:

- the type of contracts the contractor has entered into and the pricing mechanisms (ie, fixed price vs cost-pass through), penalty clauses and performance guarantees specified therein; and
- the portfolio of contracts that the contractor has in place and the extent to which individual contractual risks can be diversified across the portfolio.

3.12 One of the principal benefits of the EBIT margin metric is that it enables costs, income and margins to be measured in a more standardised manner and therefore overcomes the definitional issues and other complexities that may otherwise affect a study based on the margins specified either implicitly or explicitly in outsourcing contracts. Another advantage of using EBIT margins, as opposed to the margins specified in outsourcing contracts is that comparable information can be obtained for a large number of companies from public sources, such as annual reports and financial statements.

3.13 Although the EBIT margin metric has a number of positive attributes, some care must be taken to ensure that the calculation of the margin is not distorted by the inclusion of income that is unrelated to the provision of contractor services, such as dividend and interest based income that a company receives from associates or other debt or equity interests. It is for this reason that I have excluded 'Other Income' when deriving the EBIT margin for each of the entities included in the sample. I have also excluded the 'Share of Net Profit of Associates' where the profit generated by the associates is unrelated to the provision of contractor services.[22] While these sources of income have been excluded from the EBIT margin calculations, the income generated through joint venture arrangements has been retained in the calculation because these arrangements are typically entered into for the purposes of providing contractor services.[23,24]

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has been calculated by deducting depreciation and amortisation from this measure. Where revenues and costs are simply presented EBIT has been calculated by deducting total costs (excluding interest and tax related expenses) from sales revenue.

[22] Apart from Tenix Alliance, the EBIT margins calculated for all of the other entities in the sample exclude the 'Share of Net Profit of Associates'. The Tenix Alliance EBIT margin calculations include the revenue generated and the expenses incurred by Tenix Alliance through its alliance with SP AusNet, T-Squared, up until 2008. While this alliance has been classified as an associate arrangement, the profits do not relate to an equity ownership. Rather they reflect the profit generated through the provision of contractor services and could be better characterised as a joint venture arrangement.

[23] Examples of such arrangements from the list of comparable companies used in the sample include:

- United Group Infrastructure, which has entered into a number of joint venture arrangements including those with:
  - Balfour Beatty to construct high voltage power lines for Powerlink; and
  - Thiess to upgrade rail infrastructure in south east Queensland for Queensland Rail;
- WorleyParsons, which has entered into a number of joint ventures including those with:
  - KBR to design and provide the engineering services for two of the LNG trains for Woodside's Pluto LNG Project;

3.2. Sample selection

3.14 The principal objective of this study is to test whether the fee paid by Envestra to its asset management service provider is reasonable having regard to the margins earned by other contractors providing comparable services to those provided under the OMAs. In making such an assessment, the sample used to assess the reasonableness of the fee paid by Envestra is of particular importance and should be designed to ensure that it is representative of the conditions faced by the relevant contractor and reflects the spectrum of possible outcomes to which the contractor may be exposed. To this end, I have considered the comparability of both the services provided and the physical capital requirements of a large number of companies (or business units within companies) operating within Australia.

3.2.1. Comparability of services

3.15 The first element of comparability that I have considered when developing the sample is the similarity of the services provided by the contractors to the services provided under the OMAs. The list of services procured by Envestra under the OMAs (see section 2.1) can broadly be characterised as asset management, operation, maintenance, engineering, design, project management, construction and labour services.

3.16 From an engineering standpoint it could be argued that the services provided under the OMAs are more akin to those provided to other network infrastructure assets. However, from an economic standpoint, entities that provide similar services across other forms of infrastructure may also be viewed as comparable if the nature and scope

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  - Transfield to provide maintenance and project implementation services to Woodside Energy's North West Shelf Venture; and
  - Foster Wheeler to provide design and project services to the Pluto LNG Project;
- Downer EDI, which has a number of joint venture arrangements including an arrangement with Clough to construct port facilities at the Dalrymple Bay Coal Terminal;
- SMEC, which has entered into a number of joint venture arrangements, including those with:
  - Maunsell Australia for the provision of design services for the Brisbane Gateway Upgrade project; and
  - KBR to provide design services for the Mitcham Frankston Freeway project;
- Clough, which has a number of joint venture arrangements in place including those with:
  - BAM International for the construction of the LNG marine load out structure for Woodside's Pluto LNG Project;
  - Murray & Roberts to deliver the Boddington Gold Mine Project in Western Australia; and
  - AMEC to provide engineering, project management and maintenance services to Woodside Energy's North West Shelf Venture; and
- Fluor, which has entered into a number of joint venture arrangements including those with:
  - AMEC to perform engineering, procurement and construction activities for the oil and gas industry;
  - SKM to carry out capacity and expansion projects for BHP Billiton; and
  - Technip and Chiyoda to perform studies for the Browse Development Project for Woodside Energy Limited.

This list is not exhaustive but does demonstrate that a large amount of the work undertaken by contractors is carried out through joint ventures. The revenue and profits derived from these joint ventures can therefore be assumed to be directly attributable to the provision of contractor services.

[24] To ensure that the margins earned on joint venture arrangements are accurately reflected in the derivation of the EBIT margin, estimates of both the revenue and the profit generated by these joint ventures are required. In those cases where these two pieces of information were not reported, the income generated by the joint ventures has been *excluded* from the derivation of the EBIT margin. It is worth noting in this context that this has only affected the derivation of EBIT margins for Bechtel, Hatch Associates and KBR Holdings.

of the services is similar to those supplied under the OMAs. This view is consistent with the fact that a large number of contractors are observed to provide services across a range of different types of infrastructure assets (see Table 3.1) and is true of APA itself.

3.17 That is, in addition to providing services to Envestra's distribution networks, APA provides asset management, operating and maintenance services, engineering, project management and labour services to gas transmission pipelines, the Moomba to Sydney Ethane Pipeline, the Murraylink and Directlink electricity interconnectors, two power stations, two coal seam methane processing plants, two gas storage facilities and a number of reticulated LPG systems (see Table 2.1). While these services are provided in different industries, and no doubt require the use of staff with different technical skills, the economics of efficiently managing those staff and delivering the services will be very similar. If this was not the case then it is unlikely that they would be provided by the same firm.

3.18 The foregoing suggests that the nature of the services required by infrastructure assets is sufficiently similar for contractors to provide asset management, operation, maintenance, engineering, design, project management, construction and labour services across a range of infrastructure assets. While I am of the view that an assessment of the fee paid by Envestra should be made having regard to contractors that provide services similar in nature to those provided under the OMAs across all types of infrastructure asset, I have also considered the margins earned by contractors providing services to network infrastructure assets given this reflects the specific nature of the services procured by Envestra. I have therefore undertaken a separate examination of the margins earned by:

- contractors providing infrastructure based contract services irrespective of the type of infrastructure. This group of contractors is referred to in the remainder of this report as the 'All Infrastructure' sample set; and
- contractors providing services to network infrastructure assets, ie, gas pipelines, electricity networks, water distribution, rail networks and telecommunication networks. This group of contractors is a sub-set of the broader All Infrastructure sample and in the remainder of this report is referred to as the 'Network Infrastructure' sub-set.

3.19 To identify contractors to include in the study I have had regard to those companies (or business units within companies) that are either listed on the Australian Securities Exchange (ASX) or file statutory accounts (Form 388) with the Australian Securities and Investment Commission (ASIC), and that provide operating, maintenance, construction, labour, procurement, engineering, design and/or asset management services. The companies that I have identified with operations of this nature include:

- Ausenco Ltd;
- Bechtel Australia Pty Ltd;
- Clough Ltd;
- Downer EDI Ltd (Infrastructure, Rail and Engineering business units);

- Fluor Australia Pty Ltd;
- Hatch Associates Pty Ltd;
- KBR Holdings Ltd;
- Lend Lease Corporation Ltd (Project Management and Construction business unit);
- Sinclair Knight Merz (SKM) Holdings Ltd;
- SMEC Holdings Ltd;
- Tenix Alliance Pty Ltd;
- Transfield Services Ltd (Services business unit);
- Thomas & Coffey Ltd;
- United Group Ltd (Rail, Infrastructure and Resources business units); and
- WorleyParsons Ltd (Power, Infrastructure, Minerals and Metals and Hydrocarbons business units).

3.20 An overview of the services provided by each of the entities identified above and the basis for determining whether an entity should be included in the All Infrastructure sample or the Network Infrastructure sub-set is provided in Appendix A.

3.2.2. Controlling for capital intensity

3.21 The second element of comparability that I have considered when developing the sample is the physical capital requirements of the contractors. In general, holding all other things constant, a contractor that utilises a greater level of physical capital in the provision of its service will require a higher return on and of capital (ie, a higher margin) than a contractor with a lower capital requirement. To ensure that the results of the benchmark study are not distorted by the inclusion of entities that utilise a relatively high proportion of physical capital in the generation of revenue, I have excluded those entities that are more capital intensive than APA and its predecessor, OEAM. The term 'capital intensity' is used in this context to refer to the ratio of accounting depreciation to revenue. Over the period 2002-2011, the capital intensity exhibited by both APA and OEAM ranged from 0.4 per cent to 3.4 per cent. Companies (or business units within companies) that exhibited an average capital intensity measure in excess of 3.5 per cent over the sample period have therefore been excluded from the sample.

3.2.3. Final sample

3.22 The application of the service and capital intensity filters outlined above resulted in the identification of the contractors (business units) set out in the table below.

Table 3.1: Final Sample

Sample Set		Company	Business Unit	Infrastructure Assets Serviced
All Infrastructure Sample Set	Network Infrastructure Sub-set	Downer EDI	Infrastructure	Energy, water, wastewater and transport sectors
		Tenix Alliance		Energy, water, wastewater, telecommunications and transport sectors
		United Group	Infrastructure	Energy, water, wastewater and transport sectors
		Worley Parsons	Infrastructure	Energy, water, wastewater and transport sectors
			Power	Energy sector
		Ausenco		Energy, environmental, mining and mineral processing sectors
		Bechtel		Energy, transport, mining, telecommunications, oil and gas sectors
		Clough		Energy, minerals and water sectors
		Downer EDI	Engineering	Energy, telecommunications and process engineering sectors
			Rail	Above rail sector.
		Fluor		Energy, mining and transport sectors.
		Hatch		Mining, metallurgical, manufacturing, energy and infrastructure sectors
		KBR		Energy, transport, water, wastewater, property and mining sectors
		Lend Lease	Project Management & Construction	Transport, residential, non-residential, communications, education, defence and pharmaceutical sectors
		SKM		Energy, resources, transport, defence, property and water sectors
		SMEC		Energy, transport, mining, urban development and water sectors
		Thomas & Coffey		Energy, mining, manufacturing, health care, defence and property services sectors
		Transfield Services		Energy, water, transport, telecommunications, facilities management, defence and complex process sectors
		United Group	Rail	Above rail sector
			Resources	Oil, gas, petrochemicals, chemicals and minerals industries
		Worley Parsons	Hydrocarbons	Oil, gas, refining and petrochemical industries
			Minerals and Metals	Minerals and metals industries

3.3. Measurement period

3.23 To ensure that the sample used in this study reflects the spectrum of possible outcomes and captures the influence of both positive and adverse events on the margins earned by individual contractors (see section 3.1.1), I have used a ten year measurement period, which extends from 2002 to 2011. The analysis of the margins earned by contractors providing comparable services to those procured by Envestra under its OMAs has then been undertaken using data from the entire sample period (2002-2011) and over the last five years (2007-2011) to reflect more recent market conditions.

3.4. Assessing the consistency of the fee paid by Envestra

3.24 To assess the consistency of the fee paid by Envestra to its asset management service provider with the EBIT margins earned by contractors providing comparable services, I have considered both:

- the average (mean) EBIT margin earned by the contractors included in the sample; and
- the 95 per cent confidence interval for the true population mean, which has been estimated having regard to the sample mean, the sample standard deviation and the size of the sample in accordance with the following formula:

$$b_{est} \pm t_{\frac{a}{2}} se(b_{est}) = b_{est} \pm t_{\frac{a}{2}} \frac{s}{\sqrt{n}})$$

Where:

b_{est} is the sample mean

s is the sample standard deviation;

n is the number of observations; and

$t_{\frac{a}{2}}$ is the critical t statistic for the defined level of confidence.

If the fee paid by Envestra (measured as a percentage of the revenue earned by its asset management service provider) falls within the range established by the 95 per cent confidence interval, then it may be viewed as being *consistent* with both:

- the margins earned by other contractors providing comparable services to those procured by Envestra under the OMA; and
- the 'prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost' benchmark embodied in rules 79(a) and 91(1) of the NGR.

4. Results of the Benchmark Study

4.1 Drawing on the financial information contained in annual reports and statutory accounts filed with the ASIC, I have calculated the EBIT margins earned by the 18 contractors (22 business units) listed in Table 3.1 over the period 2002-2011. I have then used the results of this analysis to determine whether the fee paid by Envestra to its asset management service provider (ie, the NMF and the incentive payments) falls within or outside the 95 per cent confidence interval surrounding the true population mean. The results of this assessment are set out in the remainder of this chapter.

4.1. EBIT margins earned by comparable contractors

4.2 A snapshot of the distribution of margins earned by the contractors (business units) included in the sample is provided in Figure 4.1 while Figure 4.2 and Table 4.1 provide further information on the EBIT margins earned by each contractor (business unit) over the period 2002 - 2011. Further detail on the EBIT margin calculations and the sources of information used in the calculation of the margins can be found in Appendix A.

Figure 4.1: Distribution of Margins Across the Entire Sample (2002-2011)

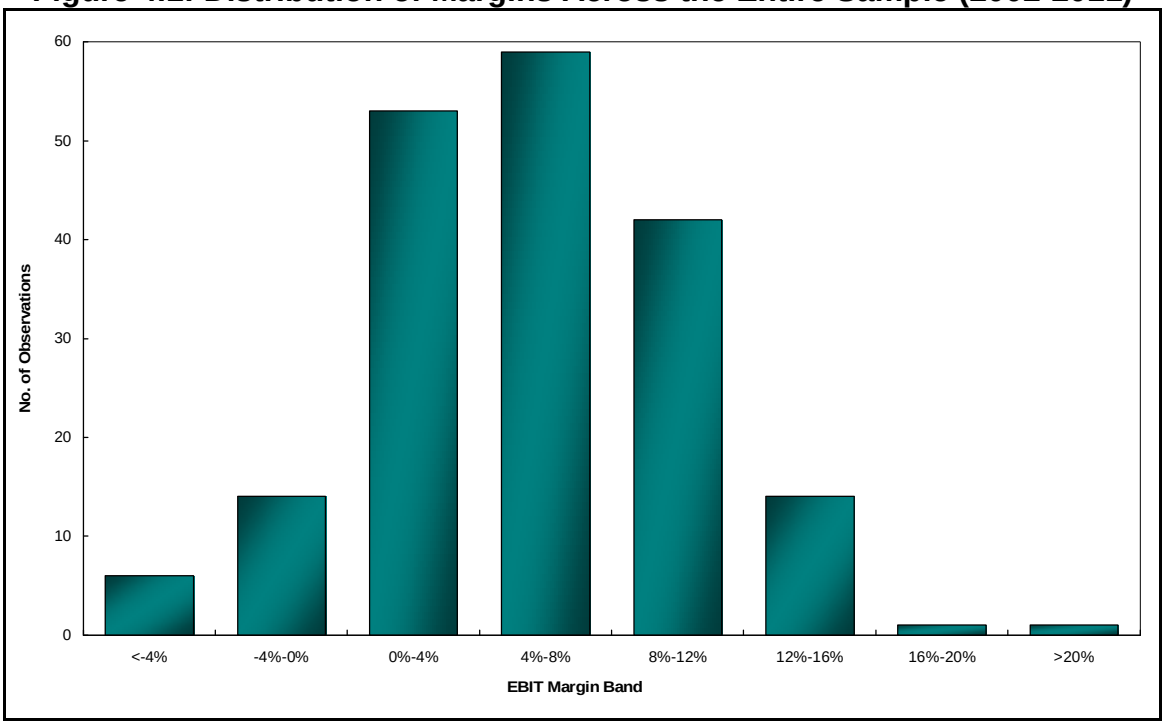

Figure 4.2: EBIT Margins Earned by Contractors

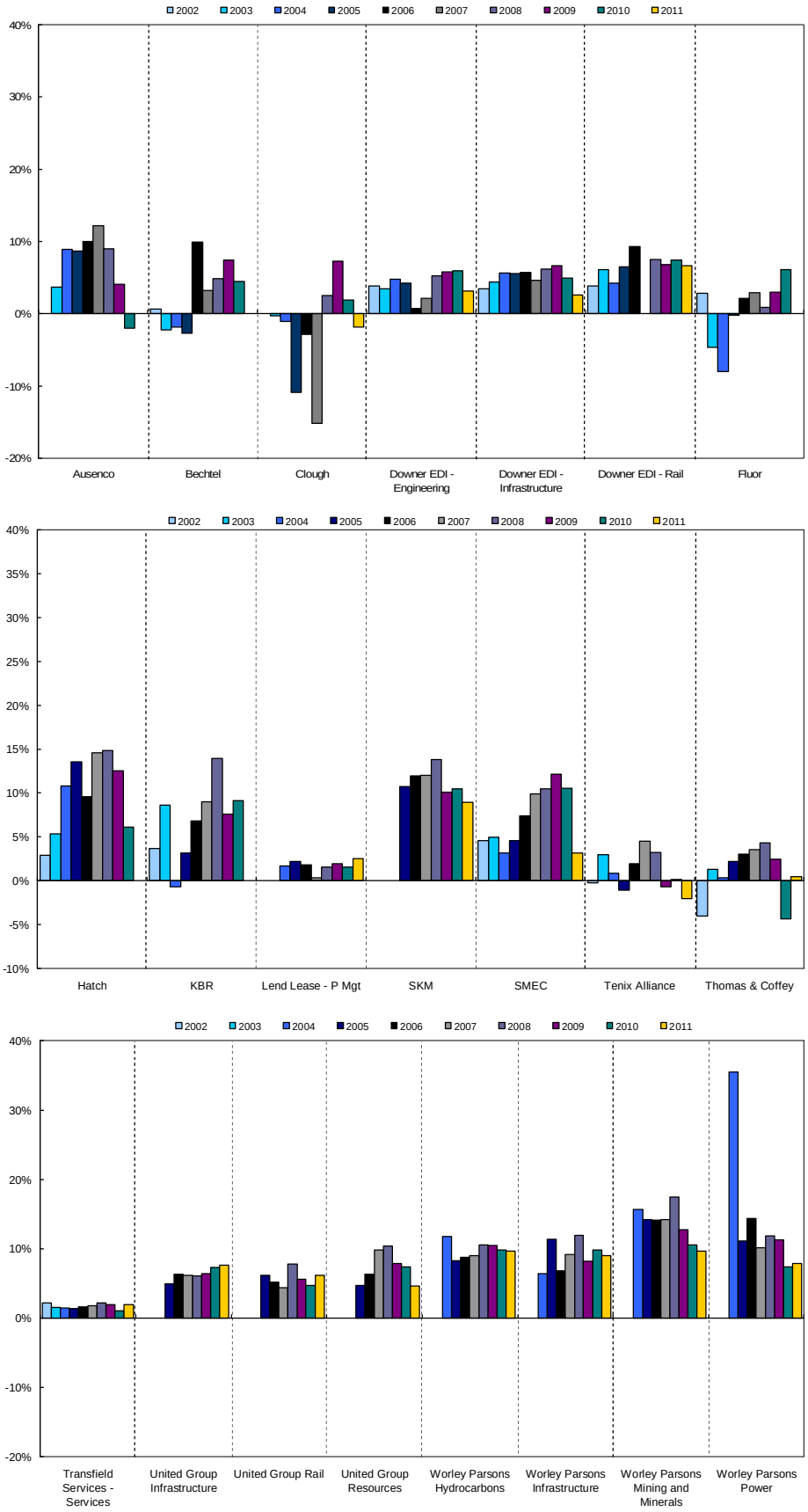

Table 4.1: EBIT Margins Generated Over the Sample Period

Sample Set		Company	Business Unit	Annual Data										Average Over Period	
				2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2002-11	2007-11
All Infrastructure Sample Set	Network Infrastructure Sub-set	Downer EDI	Infrastructure	3.5%	4.4%	5.6%	5.5%	5.7%	4.6%	6.2%	6.6%	4.9%	2.6%	**5.0%**	**5.0%**
		Tenix Alliance		-0.2%	2.9%	0.9%	-1.1%	2.0%	4.5%	3.2%	-0.7%	0.1%	-2.1%	**1.0%**	**1.0%**
		United Group	Infrastructure	n.a.	n.a.	n.a.	4.9%	6.3%	6.2%	6.1%	6.4%	7.3%	7.6%	**6.4%**	**6.7%**
		Worley Parsons	Infrastructure	n.a.	n.a.	6.5%	11.4%	6.8%	9.2%	11.9%	8.2%	9.8%	9.0%	**9.1%**	**9.6%**
			Power	n.a.	n.a.	35.5%	11.1%	14.4%	10.2%	11.9%	11.3%	7.4%	7.9%	**13.7%**	**9.7%**
		Ausenco		n.a.	3.7%	8.9%	8.7%	10.0%	12.2%	9.0%	4.0%	-2.0%	n.a.	**6.8%**	**5.8%**
		Bechtel		0.6%	-2.2%	-1.8%	-2.7%	9.9%	3.2%	4.9%	7.4%	4.4%	n.a.	**2.6%**	**5.0%**
		Clough		n.a.	-0.3%	-1.0%	-10.8%	-2.8%	-15.2%	2.5%	7.3%	1.9%	-1.9%	**-2.3%**	**-1.1%**
		Downer EDI	Engineering	3.9%	3.4%	4.8%	4.3%	0.7%	2.1%	5.2%	5.8%	5.9%	3.1%	**3.9%**	**4.4%**
			Rail	3.9%	6.1%	4.2%	6.4%	9.3%	n.a.	7.5%	6.8%	7.4%	6.6%	**6.5%**	**7.1%**
		Fluor		2.8%	-4.6%	-8.0%	-0.2%	2.1%	2.9%	0.9%	3.0%	6.1%	n.a.	**0.6%**	**3.2%**
		Hatch		2.9%	5.3%	10.8%	13.5%	9.6%	14.6%	14.8%	12.5%	6.1%	n.a.	**10.0%**	**12.0%**
		KBR		3.7%	8.6%	-0.7%	3.1%	6.8%	9.0%	14.0%	7.6%	9.2%	n.a.	**6.8%**	**9.9%**
		Lend Lease	Project Management & Construction	n.a.	n.a.	1.7%	2.2%	1.8%	0.3%	1.5%	1.9%	1.6%	2.5%	**1.7%**	**1.6%**
		SKM		n.a.	n.a.	n.a.	10.7%	12.0%	12.0%	13.8%	10.1%	10.5%	8.9%	**11.1%**	**11.1%**
		SMEC		4.6%	5.0%	3.1%	4.6%	7.4%	9.9%	10.5%	12.2%	10.6%	3.1%	**7.1%**	**9.2%**
		Thomas & Coffey		-4.0%	1.3%	0.4%	2.2%	3.0%	3.5%	4.3%	2.4%	-4.3%	0.5%	**0.9%**	**1.3%**
		Transfield Services		2.2%	1.5%	1.5%	1.4%	1.6%	1.8%	2.2%	1.9%	1.1%	1.9%	**1.7%**	**1.8%**
		United Group	Rail	n.a.	n.a.	n.a.	6.2%	5.2%	4.4%	7.8%	5.6%	4.7%	6.2%	**5.7%**	**5.8%**
			Resources	n.a.	n.a.	n.a.	4.7%	6.4%	9.8%	10.4%	7.9%	7.4%	4.6%	**7.3%**	**8.0%**
		Worley Parsons	Hydrocarbons	n.a.	n.a.	11.8%	8.3%	8.7%	9.0%	10.5%	10.5%	9.9%	9.7%	**9.8%**	**9.9%**
			Minerals and Metals	n.a.	n.a.	15.7%	14.2%	14.1%	14.2%	17.5%	12.8%	10.5%	9.7%	**13.6%**	**13.0%**
Summary Statistics															
Network Infrastructure Sub-Set															
Mean				1.6%	3.7%	12.1%	6.4%	7.0%	6.9%	7.8%	6.3%	5.9%	5.0%	**6.7%**	**6.4%**
Median				1.6%	3.7%	6.0%	5.5%	6.3%	6.2%	6.2%	6.6%	7.3%	7.6%	**6.2%**	**6.2%**
All Infrastructure Sample Set															
Mean				2.2%	2.7%	5.5%	4.9%	6.4%	6.1%	8.0%	6.9%	5.5%	4.7%	**5.6%**	**6.3%**
Median				2.9%	3.4%	3.7%	4.8%	6.6%	6.2%	7.7%	7.1%	6.1%	4.6%	**5.4%**	**6.5%**
Implied EBIT Margin Paid by Envestra				**7.6%**	**7.7%**	**6.0%**	**6.1%**	**6.2%**	**4.9%**	**5.7%**	**6.3%**	**6.6%**	**7.2%**	**6.4%**	**6.1%**

4.3 Drawing on the information contained in Table 4.1 and Figure 4.2 it is apparent that while a small number of the contractors have earned negative EBIT margins, the majority have been able to consistently earn positive margins over the sample period. Another point that becomes clear from the information contained in Table 4.1 and Figure 4.2 is that the range of margins generated by all of the contractors included in the sample over the period is quite wide, extending from -15.2 per cent to 35.5 per cent. The breadth of this range reflects the inclusion of contractors that have generated returns in excess of 12 per cent (WorleyParsons, SKM, Ausenco, Hatch Associates and KBR Holdings) and contractors that have experienced negative margins over the period (Ausenco, Clough, Bechtel, Fluor, KBR Holdings, Tenix Alliance and Thomas & Coffey).[25]

4.4 The information contained in Table 4.1 and Figure 4.2 also illustrates the inter-year volatility that can surround the EBIT margins earned by some contractors. For instance, WorleyParsons – Power's EBIT margin ranges from 7.4 per cent to 35.5 per cent over the sample period. Similar observations can be made for Clough (-15.2 per cent to 7.3 per cent), Bechtel (-2.7 per cent to 9.9 per cent), Ausenco (-2.0 per cent to 12.2 per cent) Fluor (-8.0 per cent to 6.1 per cent), KBR Holdings (-0.7 per cent to 14 per cent) and Hatch & Associates (2.9 per cent to 14.8 per cent). The volatility exhibited by the margins earned by these contractors may reflect, amongst other things:

- the type of contracts the contractor has entered into and the pricing mechanisms (ie, fixed price vs cost-pass through), penalty clauses and performance guarantees specified therein; and
- the portfolio of contracts that the contractor has in place and the extent to which individual contractual risks can be diversified across the portfolio.

4.5 In contrast to the inter-year variability exhibited by these entities, other contractors such as United Group – Infrastructure, Downer EDI – Infrastructure, Transfield Services and Lend Lease – Project Management and Construction, appear to have earned relatively steady margins over the period. The steady nature of the margins earned by these contractors may reflect the fact that they have a portfolio of outsourcing contracts over which they diversify their exposure to individual contract risks. Such a portfolio may provide for diversification across industries and across alternative pricing structures.

4.6 Another interesting point to note in this context is that the margins earned by SKM and WorleyParsons (across all of its business segments) have been consistently ***higher*** than

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[25] Some insight into the factors that have contributed to contractors earning negative margins can be found by examining the EBIT margins earned by Clough between 2003 and 2007. Over this period, the EBIT margin earned by Clough ranged from -0.3 per cent to -15.2 per cent. The negative margins earned by Clough over this period appear to have stemmed from an Engineering, Procurement and Construction (EPC) contract that it entered into with Origin Energy in 2002. Under the terms of this contract Clough was required to construct an offshore platform, onshore processing facility and linking pipelines. In late 2004, Origin announced that the performance related provisions had been triggered under the contract following delays in the delivery of the project. The arbitration provisions under the contract were then triggered and Clough was required to pay Origin $250 million in damages for delays and rectification work. The outstanding claims were settled at the end of the 2006/07 financial year. *See* Clough, Annual Reports 2005-2007 and Herald Sun, *Clough liable for BassGas*, 5 June 2007

the sample average, while the margins earned by Fluor, Lend Lease – Project Management and Construction, Tenix Alliance, Thomas & Coffey and Transfield Services have been consistently *lower* than the sample average. The ability of these companies to earn consistently superior (inferior) returns may reflect the fact that these companies are more (less) efficient (ie, are able to achieve greater economies of scale and scope) than their counterparts, or are better (less) able to diversify their contract-specific risks.

4.2. Implied EBIT margin paid by Envestra

4.7 To compare the fee paid by Envestra under the OMA with the EBIT margins earned by each of the comparable contractors, an *implied* EBIT margin[26] has been calculated for the OMA using the following formula:

$$\text{Implied EBIT margin} = \frac{\text{NMF} + \text{Incentive Payments}}{\text{Revenue Received by APA (OEAM) under the OMAs}}$$

where

$NMF = 3\% \times \text{Envestra Revenue}$

Revenue Received by APA (OEAM) under the OMA =

Payments made by Envestra for operation, management and capital expenditure under the OMAs

4.8 Table 4.2 sets out the steps that have been taken to calculate the implied EBIT margin over the period 2002-2011. Information on each of the variables used in the calculation of the implied EBIT margin has been obtained from the following sources:

- information on the payments made by Envestra for the operation and management of its networks and for network related capital expenditure, which includes the amount payable under the direct cost pass through component of the OMA, the NMF and the incentive payments payable under the OMA, has been obtained from Envestra's annual reports;
- information on the revenue generated by Envestra has been obtained from Envestra's annual reports; and
- information on the operating and capital expenditure related incentive payments paid under the terms of the OMA has been provided by Envestra.

[26] The aggregated nature of the information contained in APA's and its predecessor, Origin Energy's, annual reports has meant that it has not been possible to distinguish between the EBIT margin earned under the OMA and the EBIT margin earned from the provision of services to other clients (see Table 2.1 for a list of other assets serviced by APA). It has therefore been necessary to calculate an implied EBIT margin having recourse to the *actual* payments made by Envestra to APA and its predecessor, OEAM, under the terms of the OMA.

Table 4.2: OMA Implied EBIT Margin 2002-2011 ($000)

	Formula	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Envestra Revenue (Services)[1]	A	$261,331	$271,703	$293,495	$296,617	$314,185	$311,800	$331,700	$372,900	$382,200	$423,800
Payments for operation and management of the networks[1]	B	$64,980	$68,456	$77,502	$79,994	$80,711	$84,026	$89,878	$89,364	$92,495	$99,290
Payments for capital expenditure relating to the networks[1]	C	$69,302	$76,122	$92,116	$82,609	$91,295	$108,431	$111,840	$110,570	$100,290	$131,185
Incentive payments[2]	D	$2,349	$3,044	$1,452	$945	$1,302	$91	$1,485	$1,463	$1,333	$3,802
Calculation of Implied EBIT Margin											
Revenue earned by APA/OEAM	E=B+C	**$134,282**	**$144,578**	**$169,618**	**$162,603**	**$172,006**	**$192,457**	**$201,718**	**$199,934**	**$192,785**	**$230,475**
EBIT earned by APA/OEAM (Network Management Fee + Incentive Fee)	F=3%xA+D	**$10,188**	**$11,195**	**$10,257**	**$9,844**	**$10,728**	**$9,445**	**$11,436**	**$12,650**	**$12,799**	**$16,516**
OMA Implied EBIT Margin	**G=F/E**	**7.6%**	**7.7%**	**6.0%**	**6.1%**	**6.2%**	**4.9%**	**5.7%**	**6.3%**	**6.6%**	**7.2%**

Sources:
1. Envestra, Annual Reports, 2003-2011.
2. Incentive payment data provided by Envestra in a spreadsheet entitled, 120125-Incentive Payments.xlsx.

4.3. Implied EBIT margin paid by Envestra vs margins earned by other contractors

4.9 Figure 4.3 compares the EBIT margin paid by Envestra with the 'Network Infrastructure' sub-set and the 'All Infrastructure' sample statistics between 2002 and 2011. A summary of the relevant sample statistics for the periods 2002-2011 and 2007-2011 is contained in Table 4.3.

Figure 4.3: Implied EBIT Margin Paid by Envestra vs Sample Statistics

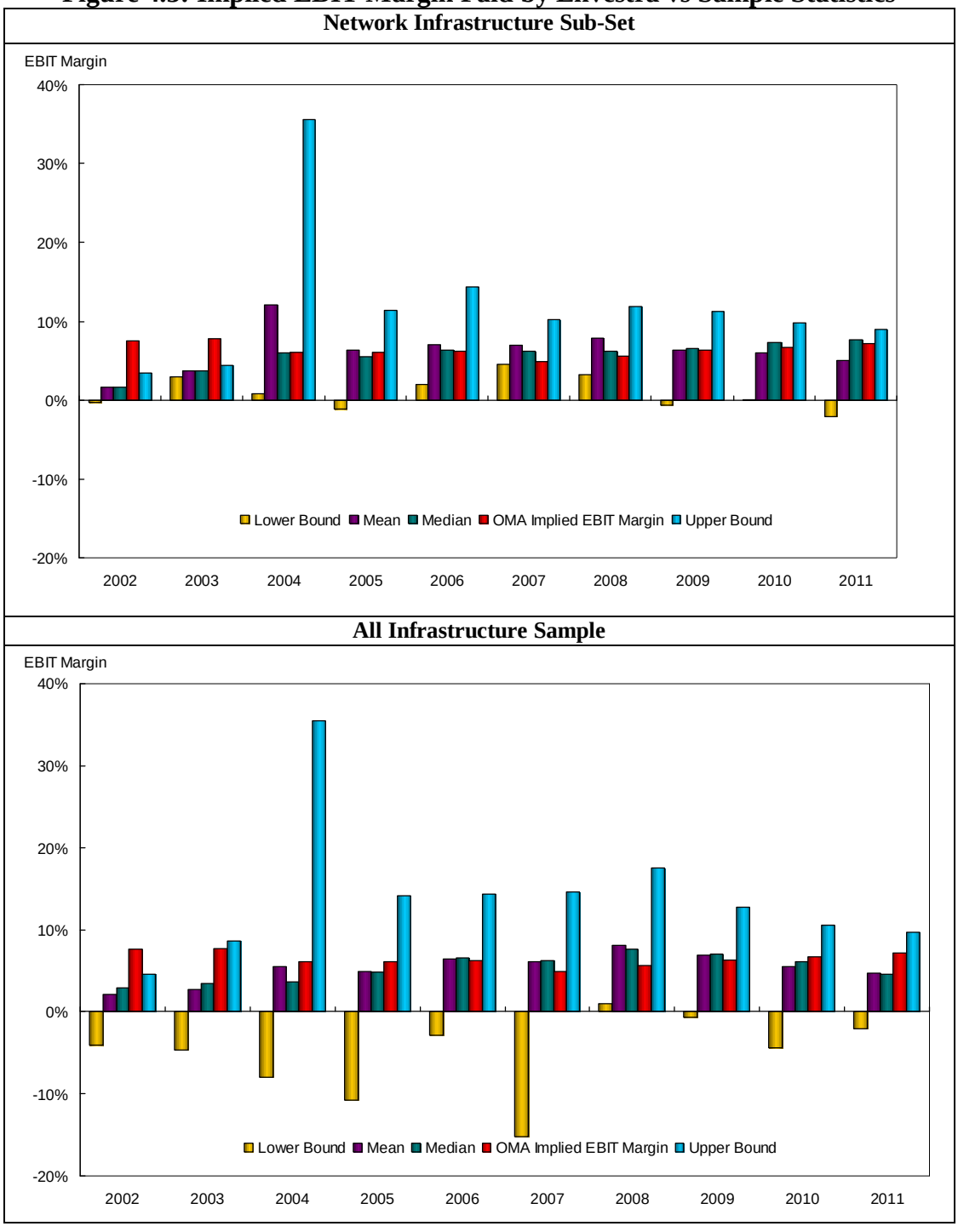


Table 4.3: Sample Statistics 2002-2011 and 2007-2011

	Network Infrastructure Sub-Set		All Infrastructure Sample	
	2002-2011	**2007-2011**	**2002-2011**	**2007-2011**
Lower Bound	-2.1%	-2.1%	-15.2%	-15.2%
Mean	6.7%	6.4%	5.6%	6.3%
Median	6.2%	6.6%	5.4%	6.5%
Upper Bound	35.5%	11.9%	35.5%	17.5%
Number of observations	43	25	190	104
Implied EBIT Margin Paid by Envestra	**6.4%**	**6.1%**	**6.4%**	**6.1%**

4.10 Drawing on the information contained in Figure 4.3 and Table 4.3 the following observations can be made about the implied EBIT margin paid by Envestra and the margins earned by contractors in the Network Infrastructure sub-set and the All Infrastructure sample:

- Network Infrastructure sub-set:
  - the implied EBIT margin paid by Envestra was *higher* than the mean EBIT margins earned by other companies in the Network Infrastructure sub-set in four out of the ten years (ie, 2002-2003 and 2010-2011) and *lower* in the remaining six years (ie, 2004-2009); and
  - over the periods 2002-2011 and 2007-2011 the implied EBIT margin paid by Envestra was 0.3 per cent *lower* than the Network Infrastructure sample mean (6.4 per cent vs 6.7 per cent and 6.1 per cent vs 6.4 per cent, respectively); and
- All Infrastructure sample:
  - the implied EBIT margin paid by Envestra was *higher* than the mean EBIT margin earned by other companies in the All Infrastructure sample in six out of the ten years (ie, 2002-2005 and 2010-2011) and *lower* in the remaining four years (ie, 2006-2009); and
  - over the period 2002-2011 the implied EBIT margin paid by Envestra was 0.8 per cent *higher* than the sample mean (6.4 per cent versus 5.6 per cent) but over the period 2007-2011 it was 0.2 per cent *lower* than the sample mean (6.1 per cent versus 6.3 per cent).

4.11 Another point that becomes clear from Table 4.3 is that the mean EBIT margin earned by the All Infrastructure sample over the entire sample period and over the last five years has been *lower* than that generated by the Network Infrastructure sub-set (2002-2011: 5.6 per cent versus 6.7 per cent and 2007-2011: 6.3 per cent versus 6.4 per cent). The All Infrastructure sample may therefore be viewed as being a more conservative comparator than the Network Infrastructure sub-set. The measurement of the mean EBIT margin earned by the All Infrastructure sample may also be viewed as being more robust because it is based on 4.4 times as many observations as those included in the Network Infrastructure sub-set (190 observations vs 43 observations). Given these attributes of the All Infrastructure sample, I have used the results of this broader sample to assess the consistency of the implied EBIT margin paid by Envestra with the margins earned by comparable contractors.

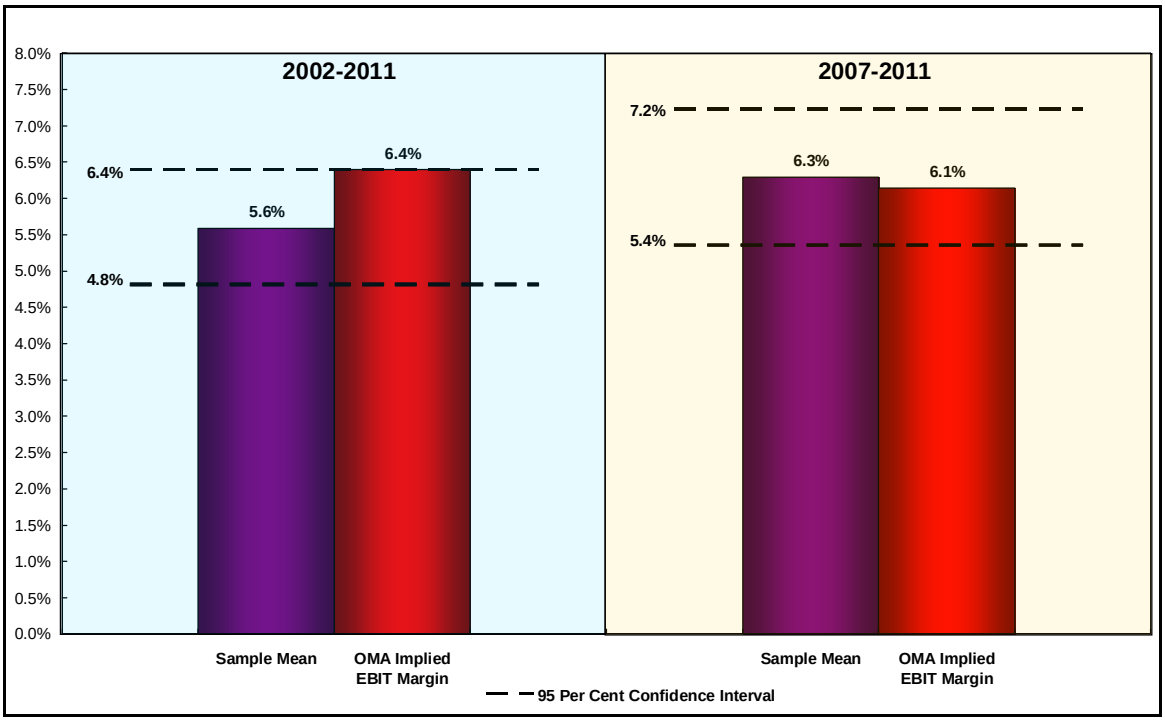
4.12 To determine whether the EBIT margin paid by Envestra is consistent with the margin earned by contractors in the All Infrastructure sample, I have used standard statistical techniques to establish the 95 per cent confidence interval for the true population mean for both the entire sample period (2002-2011) and for the last five years (2007-2011). The table below provides a summary of these results while Figure 4.4 provides a graphical representation of the implied EBIT margin paid by Envestra relative to both the All Infrastructure sample mean and the 95 per cent confidence interval for the true population mean.

Table 4.4: Confidence Interval for All Infrastructure Population Mean

Parameter	**2002-2011**	**2007-2011**
Sample mean (b_{est})	5.6%	6.3%
Sample standard deviation (s)	5.4%	4.8%
Number of observations in sample (n)	190	104
95% confidence interval for population mean*	**4.8%-6.4%**	**5.4%-7.2%**
OMA Implied EBIT Margin	**6.4%**	**6.1%**

* $b_{est} \pm t_{\frac{a}{2}} se(b_{est}) = b_{est} \pm t_{\frac{a}{2}} \frac{s}{\sqrt{n}}$

Figure 4.4: OMA Implied EBIT Margin vs All Infrastructure Sample Mean and 95% Confidence Interval



4.13 Based upon the information contained in Table 4.4, the following observations can be made about the implied EBIT margin paid by Envestra and the margins earned by contractors in the All Infrastructure sample:[27]

- Over the period 2002-2011, the mean EBIT margin earned by the All Infrastructure sample was 5.6 per cent while the 95 per cent confidence interval surrounding this estimate ranged from 4.8 per cent to 6.4 per cent. Over the same period, the mean implied EBIT margin paid by Envestra was 6.4 per cent, which was at the upper bound of the 95 per cent confidence interval; and
- Over the period 2007-2011, the mean EBIT margin earned by the All Infrastructure sample was 6.3 per cent while the 95 per cent confidence interval for the true mean ranged from 5.4 per cent to 7.2 per cent. Over the same period, the mean implied EBIT margin paid by Envestra was 6.1 per cent, which was 0.2 per cent lower than the sample average and toward the middle of the 95 per cent confidence interval.

4.14 These results confirm that the implied EBIT margin paid by Envestra to APA continues to remain *in line* with the margins received by other contractors in the All Infrastructure sample that supply asset management services under contract to third parties.

4.15 One final point that is worth making in this context is that while I recognise that a benchmark study of this nature cannot, in and of itself, be relied upon to demonstrate the compliance of an outsourcing contract with the National Gas Rules (NGR), it *can* be used to assess whether the margin payable under an outsourcing contract is consistent with the margins earned by other contractors providing comparable asset management services to third parties. It can therefore be used to determine whether the margin component of an outsourcing contract's pricing structure is consistent with the 'prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost' benchmark embodied in rules 79(a) and 91(1) of the NGR. In Envestra's case the benchmark study shows that the fee paid to APA is consistent with the margins earned by other contractors. I am therefore of the opinion that the fee paid by Envestra should be viewed as being consistent with the principles embodied in rule 91(1) of the NGR.

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[27] The equivalent results for the Network Infrastructure sub-set are as follows:

- Over the period 2002-2011, the mean EBIT margin earned by the Network Infrastructure sub-set was 6.7 per cent while the 95 per cent confidence interval surrounding this estimate ranged from 4.8 per cent to 8.5 per cent. Over the same period, the mean implied EBIT margin paid by Envestra was 6.4 per cent, which was around the middle of the 95 per cent confidence interval; and
- Over the period 2007-2011, the mean EBIT margin earned by the All Infrastructure sample was 6.4 per cent while the 95 per cent confidence interval for the true mean ranged from 4.9 per cent to 7.9 per cent. Over the same period, the mean implied EBIT margin paid by Envestra was 6.1 per cent, which was around the middle of the 95 per cent confidence interval.

5. Response to the AER's Critique of the Benchmark Study

5.1 The final matter that I have been asked by JWS to consider when preparing this report is the AER's critique of the 2010 benchmark study of contractor profit margins, which appeared in Appendix C of the South Australian Final Decision.[28] In short, the AER has contended that the study is 'flawed in a number of respects'[29] and on this basis has sought to dismiss the findings of the study. Elaborating further on the source of these 'flaws', the AER has claimed that the study was not undertaken on a 'like-for-like' basis and has also questioned the degree of variability exhibited by the margins earned by contractors.[30] I note that the Tribunal in the SA Decision accepted the benchmarking analysis that was submitted by Envestra as part of these proceedings (which included the 2010 benchmark study I prepared). Nevertheless, my response to the methodological matters raised by the AER is set out in the remainder of this chapter.

5.1. Like-for-like analysis

5.2 The first claim that the AER has made in the South Australian Final Decision is that the comparison of the implied EBIT margin paid by Envestra to APA with those earned by other contractors had not been undertaken on a like-for-like basis.[31] Further insight into the AER's claim can be found in the following extract:[32]

> "Stage 2B sets out various reasons that the AER considers to be legitimate, for the recovery of a margin. Among these is a return of and on physical assets owned by the contractor. Envestra's proposal indicates its margin does not represent such a return, but rather a form of return on intangibles such as know-how and therefore access to economies of scale and scope. Despite this, NERA's comparison was not undertaken on a like-for-like basis. As stated by NERA, the EBIT margin provides a measure of the funds available to the contractor to pay taxes and pay a return on physical and intangible assets. While NERA has indicated that the firms in the sample are not capital intensive, the incorporation of margins that are not like-for-like still presents a concern."

5.3 At the outset, it is worth noting that the comparison of the fee paid by Envestra to APA with the margins earned by other contractors providing comparable services was undertaken using the EBIT margin metric. The use of this metric was designed to ensure that costs, income and margins were measured in a standardised manner across the sample and to enable a like-for-like comparison of the margins earned by a range of contractors to be undertaken.

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[28] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011.

[29] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011, p241.

[30] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011, pp. 241-242.

[31] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011, p242.

[32] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011, p242.

5.4 I understand from the extract set out above that the AER's principal concern with the use of the EBIT margin metric is that the EBIT margins calculated for other contractors may include allowances for costs that are not payable by Envestra under its OMAs, such as a return on physical assets and taxes. My response to this concern can be summarised as follows:

- *Inclusion of the return on physical assets in the EBIT margin* – It is not possible, on the information contained in the annual reports used to conduct the study, to exclude that portion of the EBIT margin that represents the allowance received for a return on physical assets. That said, I would not expect the inclusion of such an allowance in the calculation of the EBIT margin to have a significant effect on the analysis because, as I noted in section 3.2.2, the sample has been limited to those contractors with an average capital intensity[33] measure less than, or equal to, that exhibited by APA and its predecessor, OEAM, ie, less than 3.5 per cent. The application of this filter has resulted in the selection of a sample of contractors that over the period 2002-2011 exhibited an average capital intensity measure of just 1.3 per cent.[34] Given the relatively low levels of physical capital used by this group of contractors, I would expect that any return on physical capital earned by the contractors would account for quite a small proportion of the overall EBIT margin and would *not* therefore have a material effect on the comparative analysis; and
- *Inclusion of taxes in the EBIT margin* – The margin received by APA from Envestra is a taxable form of income and so from its perspective the margin it receives will include an allowance for the tax that it is required to pay on its earnings. Viewed in this way it is apparent that the inclusion of taxes in the calculation of the EBIT margin earned by other contractors will not affect the comparability of the assessment.

5.5 On the basis of the foregoing it is apparent that I disagree with the AER's contention that the study has not been undertaken on a like-for-like basis and remain of the view that the EBIT margin is the appropriate metric to use to compare the margins earned by contractors with that paid by Envestra to APA.

5.2. Variability in the margins earned by contractors

5.6 The second issue raised by the AER in the South Australian Final Decision relates to the degree of variability exhibited by the margins earned by the contractors included in the sample. The AER's view on this issue is captured in the following extract:[35]

> "…while Envestra's proposed margin is shown to be fairly in line with the observed mean of the firms in the sample (across an average of a particular time period), the sample hides matters that the AER considers indicative of some concern. The extreme volatility in the range of margins observed in NERA's sample when viewed from a disaggregated level, could possibly be an indication that the margins included in the

[33] The term 'capital intensity' is used in this context to refer to the ratio of accounting depreciation to revenue.

[34] The minimum average capital intensity ratio observed over this period was 0.2% while the maximum was 2.8%.

[35] AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011, pp. 241-242.

> sample are in fact recovering different things. If a margin was purely to recover a return on intangibles employed, one would not expect significant oscillations in the margins payable, even accounting for differences in revenue from one year to another."

5.7 The matters raised by the AER in this extract suggest a degree of confusion on its part about what the EBIT margin represents and why it may exhibit the volatility that it does. It is therefore worthwhile reiterating a number of the points made in chapters 3 and 4 about the EBIT margin metric and the factors that are likely to contribute to the variability in margins that are observed to be earned over time and across contractors. Before doing so though it is worth noting that no attempt has been made in this report, or in the earlier reports, to 'hide' the variability in margins exhibited by the sample. To the contrary, a significant proportion of the discussion of the results has been devoted to pointing out the variability and explaining the likely sources of the volatility (see for example section 4.1).[36]

5.8 Turning now to the factors that are likely to affect the EBIT margins earned by contractors. The EBIT margin is, as I noted in paragraph 3.11, an *ex post* measure of the funds available to a contractor to pay taxes and a return on physical and intangible assets.[37] As an *ex post* measure the EBIT margin reflects the realisation of positive and adverse events on earnings and may therefore differ from the margin that the contractor *expected* to earn, which would occur when actual events differ from what was anticipated when the price was negotiated. The EBIT margin may also, as I noted in sections 3.1 and 4.1, vary across contractors and over time depending on:

- the type of contracts the contractor has entered into and the pricing mechanisms (ie, fixed price vs cost-pass through), penalty clauses and performance guarantees specified therein; and
- the portfolio of contracts that the contractor has in place and the extent to which individual contractual risks can be diversified across the portfolio.

5.9 Viewed in this way it is apparent that the EBIT margin earned by contractors may be subject to a significant degree of variability and that such variability simply reflects the conditions to which contractors are exposed.

5.10 One final point that is worth noting in this context is that when comparing the implied EBIT margin paid by Envestra with the EBIT margins generated by other contractors consideration has been given to both:

- the average (mean) EBIT margin generated by the 'All Infrastructure' sample; and
- the 95 per cent confidence interval for the true population mean, which has been estimated using the following formula:

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[36] See also paragraphs 4.4 and 4.5 of NERA, *Benchmark Study of Contractor Profit Margins*, September 2010, p24.

[37] If the contractor is entitled to some form of incentive payment under its contracts then a component of the EBIT margin will also represent the amount paid to the contractor to align its interests with those of the asset owner.

$$b_{est} \pm t_{\frac{a}{2}} se(b_{est}) = b_{est} \pm t_{\frac{a}{2}} \frac{s}{\sqrt{n}})$$

Where:

b_{est} = sample mean for the 'All Infrastructure' sample

s = sample standard deviation for the 'All Infrastructure' sample;

n = number of observations in the 'All Infrastructure' sample; and

$t_{\frac{a}{2}}$ = critical t statistic for the defined level of confidence.

5.11 The estimation of the latter of these measures requires consideration to be given to the sample standard deviation, which provides a measure of the degree of variability exhibited by the sample. The variability in the margins earned by the contractors included in the sample has not therefore been ignored in the study. Rather, it has been implicitly taken into account in the derivation of the 95 per cent confidence interval.

5.3. Conclusion

5.12 Having reviewed each of the matters raised by the AER, I can confirm that none of the methodological or other matters that it has raised would cause me to alter my opinion about the veracity of the study. I therefore disagree with its contention that the study is 'flawed in a number of respects'.

5.13 Finally, it is worth noting that the methodology that I have employed was subject to an independent review by the Allen Consulting Group (ACG) in 2007. This review was undertaken at the request of the Victorian Essential Services Commission during the 2008-2012 gas access arrangement review process. In short, the ACG endorsed the use of:

- the EBIT margin metric:

  > "The Allen Consulting Group concurs with NERA's observation that EBIT/sales measures funds available to pay a return on capital (importantly, the margin is not affected by the company's financing decision), and hence we agree that this is the most relevant margin for comparison purposes."[38]

- the process used to identify 'comparable' contractors and to control for capital intensity :

  > "It is the Allen Consulting Group's opinion that identifying OEAM's [APA's predecessor] primary activities, and using these as the basis for identifying comparable companies is likely to result in a set of companies that could be considered comparable to OEAM in terms of the companies' capabilities and services. Consequently, we support the approach adopted by NERA in identifying comparable companies."[39]
  >
  > "…NERA restricted its set of comparable entities to those that also had a capital intensity of less than three percent (calculated on the same basis as for OEAM, that is

[38] ACG, *Benchmarking of Contractors' Margins – Review of NERA and PricewaterhouseCoopers Reports – Report to the Essential Services Commission of Victoria,* July 2007, p11.

[39] ACG, *Benchmarking of Contractors' Margins – Review of NERA and PricewaterhouseCoopers Reports – Report to the Essential Services Commission of Victoria,* July 2007, p7.

> the ratio of total depreciation and amortisation expense to total sales revenue over the analysis period).
>
> We support the cut-off that was employed by NERA, as one of the most obvious sources of bias that could occur when benchmarking the profit that is earned across firms (either in absolute terms or relative to a scalar, like revenue or total costs) would be to include firms in the sample size that have different degrees of capital."[40]

- the statistical measures used to assess the overall consistency of the implied EBIT margin paid by Envestra with the margins earned by other contractors.[41]

5.14 The ACG's independent endorsement of these aspects of the methodology should, in my opinion, accord the AER with some degree of comfort that the methodology I have employed is sound and can be relied upon to determine whether the margin paid under an outsourcing arrangement is consistent with the principles embodied in rules 79(a) and 91(1) of the NGR.

Katherine Lowe

Senior Consultant, NERA Economic Consulting.

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[40] ACG, *Benchmarking of Contractors' Margins – Review of NERA and PricewaterhouseCoopers Reports – Report to the Essential Services Commission of Victoria,* July 2007, p9.

[41] The ACG's endorsement of the statistical measures can be inferred from its use of the same technique when assessing the analysis presented in the PWC report, see ACG, *Benchmarking of Contractors' Margins – Review of NERA and PricewaterhouseCoopers Reports – Report to the Essential Services Commission of Victoria,* July 2007, pp. 30-31.

Appendix A. Comparable Companies

A.1 The companies included in this study provide a range of contract services including asset management, operation, maintenance, engineering, project management, construction and labour services. The remainder of this appendix provides an overview of the services provided by those companies that have been included in the study and also sets out the EBIT margins that have been calculated having recourse to the statutory accounts prepared by each entity.

A.1. Ausenco Limited

A.2 Ausenco Limited is an Australian listed company that provides engineering, construction, operations, maintenance and project management services to the energy, environmental, mining and mineral processing sectors. Ausenco operates in Australia, New Zealand, Papua New Guinea, Canada, Argentina, Africa, Asia and Europe and its clients include Newcrest Mining, BeMax Resources and Triton Resources. The description of infrastructure assets serviced by Ausenco indicates that its operations extend beyond network infrastructure services. Ausenco has therefore only been included in the All Infrastructure sample.

A.3 At the time of preparing this report, Ausenco had not filed its 2011 form 388. The margins in this table have therefore only been calculated through to 2010.

Table A.1: Ausenco EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	n.a.	$34,567	$78,392	$83,216	$177,076	$519,839	$726,875	$442,500	$519,827
EBIT	n.a.	$1,278	$6,966	$7,252	$17,642	$63,449	$65,122	$17,913	-$10,543
EBIT Margin	**n.a.**	**3.7%**	**8.9%**	**8.7%**	**10.0%**	**12.2%**	**9.0%**	**4.0%**	**-2.0%**
Capital Intensity	**n.a.**	**1.2%**	**0.5%**	**0.7%**	**1.0%**	**0.6%**	**1.4%**	**2.9%**	**2.2%**

Source: Ausenco Annual Reports.

A.2. Bechtel Australia Pty Ltd

A.4 Bechtel Australia Pty Ltd is an Australian subsidiary of the global company Bechtel. In Australia, Bechtel provides engineering, construction and project management services to the transport, energy, mining, telecommunications, oil and gas industries. The projects Bechtel has been involved in include Vodafone's high speed roll out and the development of the LNG project in Darwin. The description of infrastructure assets serviced by Bechtel indicates that its operations extend beyond network infrastructure services. Bechtel has therefore only been included in the All Infrastructure sample.

A.5 Bechtel is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins contained in the table below. It should be noted that while Bechtel recorded income from its joint venture interests over the period, its financial reports do not provide a separate measure of the revenue and profit derived from these interests. It has not therefore been possible to calculate the EBIT margin associated with these joint venture interests. The EBIT

margins in the table therefore exclude the effect of any income generated or costs incurred by Bechtel's joint venture interests.

A.6 At the time of preparing this report, Bechtel had not filed its 2011 form 388. The margins in this table have therefore only been calculated through to 2010.

Table A.2: Bechtel EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	$618,398	$809,989	$691,121	$535,581	$232,259	$201,955	$351,713	$456,890	$677,700
EBIT	$3,751	-$17,680	-$12,635	-$14,321	$23,037	$6,555	$17,214	$33,783	$29,966
EBIT Margin	**0.6%**	**-2.2%**	**-1.8%**	**-2.7%**	**9.9%**	**3.2%**	**4.9%**	**7.4%**	**4.4%**
Capital Intensity	**0.9%**	**0.7%**	**0.9%**	**1.2%**	**2.2%**	**2.4%**	**1.8%**	**1.2%**	**0.8%**

Source: Form 388 filings with ASIC.

A.3. Clough Ltd

A.7 Clough Limited is an Australian listed company that provides engineering, project management, construction, commissioning, operations, maintenance and asset management services across a range of industries including the energy, minerals and water sectors. Clough operates in Australia, Indonesia, Pakistan, Thailand, India and the Middle East. Some of Clough's more notable clients include Woodside, ConocoPhillips, Chevron, the Gladstone Area Water Board and the Water Corporation of WA. The description of infrastructure assets serviced by Clough indicates that its operations extend beyond network infrastructure services. Clough has therefore only been included in the All Infrastructure sample.

A.8 The calculation of Clough's EBIT margin is set out in the table below. The EBIT margins appearing in this table include the effect of income generated and expenditure incurred by Clough through its joint venture arrangements.

Table A.3: Clough EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	n.a.	$1,063,555	$803,411	$625,213	$912,951	$723,945	$600,180	$626,230	$644,825	$841,324
EBIT	n.a.	-$2,700	-$8,398	-$67,806	-$25,960	-$110,089	$14,936	$45,542	$12,101	-$15,776
EBIT Margin	**n.a.**	**-0.3%**	**-1.0%**	**-10.8%[a]**	**-2.8%[a]**	**-15.2%[a]**	**2.5%**	**7.3%**	**1.9%**	**-1.9%**
Capital Intensity	**n.a.**	**3.4%**	**2.7%**	**2.0%**	**1.7%**	**2.4%**	**0.9%**	**1.2%**	**0.5%**	**0.4%**

Source: Clough Annual Reports.
a. Includes the effect of a dispute with Origin Energy in relation to the BassGas project and the final settlement paid by Clough to Origin.

A.4. Downer EDI Limited

A.9 Downer EDI is an Australian listed company that provides engineering and infrastructure management services to the energy, rail, road, telecommunications, mining and mineral processing industries. Downer EDI operates in Australia, New Zealand, the UK and Asia and its clients have included VicRoads, Transit NZ, Sydney Water, Orica, Shell, Caltex, RailCorp, Xstrata, QR and BHP Billiton.

A.10 Downer EDI reports its data on a segment basis with the primary business segments being:

- the Infrastructure business, which provides operating, maintenance and construction services to the road, rail, energy, water and wastewater industries. The services provided by this business unit can broadly be characterised as network infrastructure services. This business unit has therefore been included in both the All Infrastructure sample set and the Network Infrastructure sub-set;
- the Rail business, which provides design, manufacture, refurbishment and maintenance services to the above rail industry. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample;
- the Engineering business, which provides engineering and consultancy services to the telecommunications, energy and process engineering industries. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample; and
- the Mining and Resources business, which provides mining and minerals processing services, drilling services, mine design, process design, construction, operations and maintenance services to the mining, resources, oil and gas and geothermal industries. The capital intensity measure of this business unit averaged 5.5 per cent over the sample period and has therefore been excluded from the study

A.11 The EBIT margins for the Rail, Infrastructure and Engineering business units are set out in the table below. The EBIT margins appearing in this table have been calculated having regard to the income generated and costs incurred by Downer EDI through its joint venture arrangements.

Table A.4: Downer EDI EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007 [b]	2008	2009	2010	2011
Rail [b]										
Revenue	$362,329	$333,509	$409,911	$360,918	$348,904	n.a.	$613,072	$888,925	$1,046,757	$1,129,025
EBIT	$13,989	$20,417	$17,342	$23,258	$32,389	n.a.	$45,904	$60,765	$77,926	$75,034
EBIT Margin	**3.9%**	**6.1%**	**4.2%**	**6.4%**	**9.3%**	**n.a.**	**7.5%**	**6.8%**	**7.4%**	**6.6%**
Capital Intensity	**3.0%**	**3.3%**	**2.6%**	**1.3%**	**1.5%**	**n.a.**	**1.2%**	**0.8%**	**0.7%**	**0.6%**
Infrastructure										
Revenue	$425,470	$576,537	$683,980	$893,571	$1,078,510	$1,619,922	$1,775,204	$2,043,596	$2,081,342	$2,069,934
EBIT	$14,750	$25,349	$38,167	$49,576	$61,610	$74,121	$110,012	$134,745	$102,901	$53,977
EBIT Margin	**3.5%**	**4.4%**	**5.6%**	**5.5%**	**5.7%**	**4.6%**	**6.2%**	**6.6%**	**4.9%**	**2.6%**
Capital Intensity	**3.1%**	**2.6%**	**3.1%**	**2.5%**	**2.9%**	**2.6%**	**2.6%**	**2.7%**	**2.7%**	**2.6%**
Engineering										
Revenue	$741,152	$869,470	$1,170,472	$1,289,894	$1,649,249	$2,113,256	$2,139,722	$2,000,297	$1,893,639	$2,299,061
EBIT	$28,608	$29,667	$56,234	$54,827	$11,625	$44,657	$111,707	$116,602	$112,519	$72,015
EBIT Margin	**3.9%**	**3.4%**	**4.8%**	**4.3%**	**0.7%** [a]	**2.1%**	**5.2%**	**5.8%**	**5.9%**	**3.1%**
Capital Intensity	**1.7%**	**1.6%**	**1.8%**	**1.0%**	**0.9%**	**1.3%**	**1.1%**	**1.3%**	**1.2%**	**1.1%**

Source: Downer EDI Annual Reports

a. In 2006 Downer EDI wrote down losses associated with construction contracts in the Engineering business segment, which resulted in a lower than average EBIT margin in this year. b. In 2007 Downer EDI reported the earnings from the Rail and Engineering business segments on a combined basis. The results for the combined business segment have been included in the Engineering business segment data for 2007.

A.5. Fluor Australia Pty Ltd

A.12 Fluor Australia Pty Ltd is an Australian subsidiary of the US based company, Fluor Corporation. Within Australia, Fluor provides engineering, construction, operation, maintenance and project management services across a range of sectors including the energy, mining and transport sectors and its clients in Australia have included BHP Billiton, Worsley Alumina and Anaconda Nickel. The description of infrastructure assets serviced by Fluor indicates that its operations extend beyond network infrastructure services. Fluor has therefore only been included in the All Infrastructure sample.

A.13 Fluor is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. The EBIT margins appearing in this table have been calculated having regard to the income generated and costs incurred by Fluor through its joint venture arrangements.

A.14 At the time of preparing this report, Fluor had not filed its 2011 form 388. The margins in this table have therefore only been calculated through to 2010.

Table A.5: Fluor EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	$294,592	$196,642	$163,203	$215,685	$184,334	$244,992	$372,992	$498,261	$624,641
EBIT	$8,302	-$9,125	-$13,011	-$339	$3,913	$7,141	$3,409	$14,928	$38,107
EBIT Margin	**2.8%**	**-4.6%[a]**	**-8.0%[b]**	**-0.2%**	**2.1%**	**2.9%**	**0.9%**	**3.0%**	**6.1%**
Capital Intensity	**0.7%**	**0.6%**	**0.9%**	**0.1%**	**0.3%**	**0.5%**	**0.4%**	**0.6%**	**0.5%**

Source: Form 388 filings with ASIC.
a. Includes the effect of a write down of a joint venture investment in magnesium smelter.
b. Includes the effect of a settlement paid to Anaconda Nickel.

A.6. Hatch Associates Pty Ltd

A.15 Hatch Associates Pty Ltd provides engineering, project management, construction, business consulting and IT services to the mining, metallurgical, manufacturing, energy and infrastructure industries. Hatch Associates is a Canadian company with interests in Australia, New Zealand, the US, Europe and Asia. Within Australia, Hatch Associates' clients have included BlueScope Steel, BHP Billiton and Barrick Gold. The description of infrastructure assets serviced by Hatch indicates that its operations extend beyond network infrastructure services. Hatch has therefore only been included in the All Infrastructure sample.

A.16 Hatch Associates is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. It should be noted that while Hatch Associates recorded income from its joint venture interests over the period, its financial reports do not provide a separate measure of the revenue and profit derived from these interests. It has not therefore been possible to calculate the EBIT margin associated with these joint venture interests. The EBIT margins in the table below therefore exclude the income generated and the expenditure incurred by Hatch Associates' joint venture interests.

A.17 At the time of preparing this report, Hatch had not filed its 2011 form 388. The margins in this table have therefore only been calculated through to 2010.

Table A.6: Hatch Associates EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	$171,935	$187,985	$255,613	$350,355	$358,572	$386,631	$481,330	$435,233	$338,678
EBIT	$5,026	$10,009	$27,654	$47,423	$34,344	$56,277	$71,412	$54,508	$20,693
EBIT Margin	**2.9%**	**5.3%**	**10.8%**	**13.5%**	**9.6%**	**14.6%**	**14.8%**	**12.5%**	**6.1%**
Capital Intensity	**1.4%**	**1.4%**	**0.9%**	**0.7%**	**0.7%**	**0.7%**	**0.8%**	**1.3%**	**1.3%**

Source: Form 388 filings with ASIC.

A.7. KBR Holdings Ltd (Australia)

A.18 KBR Holdings Ltd is an Australian subsidiary of the US based company, KBR. Within Australia, KBR Holdings provides engineering, construction, operation, maintenance and asset management services to the energy, transport, water, wastewater, property and mining sectors. KBR's more notable projects in Australia have included the Sydney 2000 Olympic Games, Queensland's Coombabah Water Futures Project and the Adelaide to Darwin Railway. It has also recently been awarded a contract for the Gorgon LNG project on Barrow Island. The description of infrastructure assets serviced by KBR Holdings indicates that its operations extend beyond network infrastructure services. KBR has therefore only been included in the All Infrastructure sample.

A.19 KBR Holdings is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. KBR has interests in a number of joint ventures in Australia but has only provided a breakdown of the revenue and expenses arising from these joint venture arrangements up to 2005. The EBIT margins in the table below therefore include the income generated and costs incurred by KBR's joint venture interests up to 2005 but exclude these items thereafter

A.20 At the time of preparing this report, KBR Holdings had not filed its 2011 form 388. The margins in this table have therefore only been calculated through to 2010.

Table A.7: KBR Holdings EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	$602,333	$413,262	$333,640	$264,271	$279,997	$356,409	$492,257	$408,794	$376,813
EBIT	$22,192	$35,685	-$2,317	$8,303	$19,160	$32,039	$68,702	$31,085	$34,487
EBIT Margin	**3.7%**	**8.6%**	**-0.7%**	**3.1%**	**6.8%**	**9.0%**	**14.0%**	**7.6%**	**9.2%**
Capital Intensity	**1.8%**	**2.5%**	**1.1%**	**1.1%**	**1.1%**	**0.9%**	**0.8%**	**1.2%**	**1.5%**

Source: Form 388 filings with ASIC.

A.8. Lend Lease Corporation Limited

A.21 Lend Lease is an Australian listed company that operates in Australia, New Zealand, the US, the UK, Asia and Europe. Lend Lease's operations can broadly be divided into five businesses including:

- § the Retail business, which develops, builds, operates and manages retail centres;
- § the Communities business, which is involved in urban development;
- § the Investment Management business, which manages property funds;
- § the Public Private Partnerships business, which manages and invests money in large public private partnership projects in the US and UK; and
- § the Project Management and Construction business, which provide construction management, project and programme management, design management, design engineering, procurement and facilities management services to the residential, non-residential, communications, transport, education, defence and pharmaceutical sectors.

A.22 Of these five business units, the Project Management and Construction business unit appears to be the only one that provides similar infrastructure based contract services to those provided under Envestra's OMAs. This is the only business segment that has therefore been included in the study. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. The Project Management and Construction business unit has therefore only been included in the All Infrastructure sample.

A.23 The calculation of the Project Management and Construction business unit's EBIT margin is set out in the table below. It is worth noting that in 2003 Lend Lease underwent a restructure. It has therefore only been possible to calculate an EBIT margin for this segment from 2004 onward.

Table A.8: Lend Lease Project Management Construction EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	n.a.	n.a.	$7,691,900	$8,183,800	$9,572,200	$12,056,700	$12,426,800	$12,422,000	$8,530,800	$7,335,000
EBIT	n.a.	n.a.	$130,300	$178,800	$171,300	$40,300	$191,400	$236,900	$132,300	$185,700
EBIT Margin	**n.a.**	**n.a.**	**1.7%**	**2.2%**	**1.8%**	**0.3%**	**1.5%**	**1.9%**	**1.6%**	**2.5%**
Capital Intensity	**n.a.**	**n.a.**	**0.6%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.2%**	**0.3%**

Source: Lend Lease Annual Reports.

A.9. Sinclair Knight Merz Holdings Ltd

A.24 Sinclair Knight Merz Holdings Limited (SKM) provides engineering, geotechnical engineering, planning, construction, design, environmental planning and project management services to the energy, resources, transport, infrastructure, defence, property and water industries. Some of SKM's more notable clients and projects include the Australian Competition and Consumer Commission, Sydney Airport, Melbourne Airport and Dalrymple Bay Coal Terminal expansion project. SKM has undertaken projects in a number of countries including Australia, New Zealand, Chile, Dubai, the UK, Malaysia, Hong Kong, Thailand and India. The description of infrastructure assets serviced by SKM indicates that its operations extend beyond network infrastructure services. SKM has therefore only been included in the All Infrastructure sample.

A.25 SKM is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. It is worth noting in this context that the EBIT margin calculations for 2006-2008 include the income generated and the expenses incurred by SKM through its joint venture arrangements. It should also be noted that up until 2004 SKM reported its revenue net of project expenses. This practice changed in 2005 when SKM began reporting project expenses separately. Without any way of addressing this shortcoming, the EBIT margins for SKM have only been calculated from 2005.

Table A.9: SKM EBIT Margin ($000)

	2002[a]	2003[a]	2004[a]	2005	2006	2007	2008	2009	2010	2011
Revenue	n.a.	n.a.	n.a.	$561,263	$715,043	$865,647	$1,064,394	$1,135,971	$986,004	$1,089,818
EBIT	n.a.	n.a.	n.a.	$60,143	$85,511	$103,843	$147,003	$114,747	$103,064	$97,343
EBIT Margin	n.a.	n.a.	n.a.	**10.7%**	**12.0%**	**12.0%**	**13.8%**	**10.1%**	**10.5%**	**8.9%**
Capital Intensity	n.a.	n.a.	n.a.	**1.7%**	**1.9%**	**2.0%**	**1.8%**	**2.3%**	**2.0%**	**1.8%**

Source: Form 388 filings with ASIC.
*Between 2002 and 2004 SKM reported its revenue net of project expenses. Since this treatment would have resulted in an inflated estimate of the EBIT margin, these data points have been excluded from the sample.

A.10. SMEC Holdings Limited

A.26 SMEC Holdings Limited provides engineering, project management, asset management. environmental studies and economic development services across a range of industries including the energy, transport, mining, urban development and water sectors. SMEC's clients and projects have included the Westlink M7 project, the World Bank, the Asian Development Bank and the Murray Darling Basin Commission. The description of infrastructure assets serviced by SMEC indicates that its operations extend beyond network infrastructure services. SMEC has therefore only been included in the All Infrastructure sample.

A.27 SMEC Holdings is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. The EBIT margins contained in this table include both the revenue derived and expenses incurred by SMEC Holdings through its joint venture arrangements.

Table A.10: SMEC EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	$122,296	$122,862	$106,855	$112,037	$141,652	$190,267	$270,630	$359,020	$398,894	$419,785
EBIT	$5,577	$6,091	$3,346	$5,137	$10,459	$18,834	$28,308	$43,746	$42,118	$13,062
EBIT Margin	**4.6%**	**5.0%**	**3.1%**	**4.6%**	**7.4%**	**9.9%**	**10.5%**	**12.2%**	**10.6%**	**3.1%**
Capital Intensity	**0.9%**	**0.7%**	**0.8%**	**1.2%**	**1.2%**	**1.4%**	**1.8%**	**1.7%**	**1.5%**	**1.7%**

Source: Form 388 filings with ASIC.

A.11. Tenix Alliance Pty Ltd

A.28 Tenix Alliance provides infrastructure maintenance and engineering services to the gas, electricity, water, wastewater, transport and telecommunications industries. Tenix

Alliance operates both independently and through a number of alliances in both Australia and New Zealand. Tenix Alliance's clients have included SP AusNet, Eraring Energy, Country Energy, Powerco, Western Power, Powerlink, Electranet and the Redbank Power Station. The services provided by Tenix can broadly be characterised as network infrastructure services. Tenix has therefore been included in both the All Infrastructure sample set and the Network Infrastructure sub-set.

A.29 Tenix Alliance is not listed on the ASX but it is required to file financial statements on an annual basis with ASIC using Form 388. The financial results contained in these 388 forms have therefore been used to calculate the EBIT margins in the table below. The EBIT calculations contained in this table include the revenue generated and the expenses incurred by Tenix Alliance through its alliance with SP AusNet, T-Squared. While this alliance has been classified as an associate arrangement, the profits do not relate to an equity ownership. Rather they reflect the profit generated through the provision of contractor services and could be better characterised as a joint venture arrangement. The revenue generated and expenses incurred as a result of this arrangement have therefore been included in the derivation of the EBIT margin.

Table A.11: Tenix Alliance EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	$211,739	$194,456	$220,568	$261,720	$387,557	$455,942	$583,774	$619,830	$495,989	$592,482
EBIT	-$488	$5,735	$1,885	-$2,907	$7,596	$20,538	$18,770	-$4,303	$623	-$12,213
EBIT Margin	**-0.2%**	**2.9%**	**0.9%**	**-1.1%**	**2.0%**	**4.5%**	**3.2%**	**-0.7%**	**0.1%**	**-2.1%**
Capital Intensity	**3.5%**	**4.0%**	**3.3%**	**1.3%**	**1.0%**	**0.9%**	**0.8%**	**0.7%**	**1.0%**	**1.8%**

Source: Form 388 filings with ASIC.

A.12. Thomas & Coffey Ltd

A.30 Thomas & Coffey Ltd is an Australian listed company that provides operating, maintenance, construction and asset management services to the energy, mining, manufacturing, health care, defence and property services sectors. Thomas & Coffey operates in Australia and its clients have included EnergyAustralia, Xstrata, Macquarie Bank, Integral Energy, BlueScope Steel, OneSteel and Wesfarmers. The description of infrastructure assets serviced by Thomas & Coffey indicates that its operations extend beyond network infrastructure services. Thomas & Coffey has therefore only been included in the All Infrastructure sample.

A.31 The calculation of Thomas & Coffey's EBIT margin is set out in the table below.

Table A.12: Thomas & Coffey EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	$92,086	$117,776	$174,588	$160,785	$175,983	$219,249	$281,004	$398,883	$333,039	$320,864
EBIT	-$3,699	$1,499	$625	$3,503	$5,283	$7,704	$12,124	$9,700	-$14,486	$1,450
EBIT Margin	**-4.0%**	**1.3%**	**0.4%**	**2.2%**	**3.0%**	**3.5%**	**4.3%**	**2.4%**	**-4.3%**	**0.5%**
Capital Intensity	**1.4%**	**0.9%**	**0.8%**	**0.7%**	**0.7%**	**1.0%**	**1.1%**	**0.9%**	**1.2%**	**1.2%**

Source: Thomas & Coffey Annual Reports.
a. Includes the effect of a $7-$9 million write down on a major construction project in Newcastle.

A.13. Transfield Services Limited

A.32 Transfield Services Ltd is an Australian listed company that provides operating, maintenance, asset and project management services across the transport, energy, water, telecommunications, facilities management, defence and complex process industries. Transfield Services operates across Australia, New Zealand, the US, South East Asia, India and Canada and its clients have included Woodside Energy, Water Corporation of WA, BlueScope Steel, Caltex, Shell, Santos and the NSW Roads and Traffic Authority. The description of infrastructure assets serviced by Transfield Services indicates that its operations extend beyond network infrastructure services. Transfield Services has therefore only been included in the All Infrastructure sample.

A.33 Prior to 2007, Transfield Services provided the asset management related services described above and also owned, or had an interest in, a number of major infrastructure assets including the Townsville Power Station, Kemerton, Collinsville and Kwinana power stations and the Macarthur and Yan Yean water filtration plants. Following a restructure in June 2007, these infrastructure assets were spun off into the Transfield Services Infrastructure Fund while the asset management services were retained by Transfield Services. To calculate the EBIT margin of most relevance to the current consideration, the segment data for the Operations and Maintenance Outsourcing Service business unit has been used for the period 2002-2007 while the financial results for the entire business have been used from 2008.

A.34 The table below sets out the EBIT margin calculations for Transfield Services.

Table A.13: Transfield Services – Services EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue	$756,664	$958,043	$1,172,135	$1,436,265	$1,782,696	$2,290,914	$2,996,637	$3,387,981	**$2,603,988**	**$2,746,032**
EBIT	$16,527	$14,432	$17,598	$19,505	$28,549	$40,552	$65,504	$65,954	$28,264	$52,585
EBIT Margin	**2.2%**	**1.5%**	**1.5%**	**1.4%**	**1.6%**	**1.8%**	**2.2%**	**1.9%**	**1.1%**	**1.9%**
Capital Intensity	**1.2%**	**1.0%**	**1.0%**	**1.1%**	**1.5%**	**2.0%**	**2.1%**	**2.2%**	**2.1%**	**2.3%**

Source: Transfield Services Annual Reports

A.14. United Group Limited

A.35 United Group Limited is an Australian listed company that provides operating, maintenance, facilities management, engineering and corporate real estate services to the transport, resources, energy, water, wastewater and commercial sectors. United Group operates in Australia, New Zealand, the US, Asia and the UK and its clients have included Sydney Water, RailCorp, QR, Connex, Yarra Trams, Caltex, and the NAB.

A.36 United Group reports its financial results on a segment basis with the primary business segments being:

- the Infrastructure business, which provides construction, engineering, operational and maintenance services to clients in the transport, energy, water and wastewater sectors. The services provided by this business unit can broadly be characterised as

network infrastructure services. This business unit has therefore been included in both the All Infrastructure sample set and the Network Infrastructure sub-set;

- the Rail business, which provides design, engineering, manufacturing, maintenance and asset management services to clients in the above rail industry. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample;
- the Resources business, which provides asset management, engineering, maintenance, construction, manufacturing and project management services to clients in the oil, gas, petrochemicals, chemicals and minerals industries. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample; and
- the Services business, which provides outsourcing services including facilities management, corporate real estate, human resources, financial and accounting services across a range of industries. The services provided by this business are essentially non-infrastructure based services and so this business unit has been excluded from the benchmark study.

A.37 United Group underwent a restructure in 2005 and so the segment based EBIT data is only reported from 2005. The EBIT margins appearing in this table include the effect of revenue generated and expenses incurred by each of the various business units through their joint venture arrangements. It is worth noting in this context that the joint venture income reported by the United Group relate to both the Infrastructure and Services segments. It has therefore been necessary to apportion the revenue and expenses between these two segments using the proportion of the total net profit of joint ventures accounted for by these two business units as weights.

Table A.14: United Group EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Rail										
Revenue	n.a.	n.a.	n.a.	$534,898	$960,424	$1,060,321	$1,138,595	$1,420,801	$1,296,982	$1,514,984
EBIT	n.a.	n.a.	n.a.	$33,157	$50,251	$46,612	$89,115	$80,188	$60,975	$94,311
EBIT Margin	**n.a.**	**n.a.**	**n.a.**	**6.2%**	**5.2%**	**4.4%**	**7.8%**	**5.6%**	**4.7%**	**6.2%**
Capital Intensity	**n.a.**	**n.a.**	**n.a.**	**1.4%**	**0.7%**	**0.8%**	**0.6%**	**0.5%**	**0.9%**	**0.9%**
Infrastructure										
Revenue	n.a.	n.a.	n.a.	$286,879	$577,994	$821,505	$857,741	$1,229,069	$1,068,567	$1,113,086
EBIT	n.a.	n.a.	n.a.	$14,136	$36,641	$51,141	$52,164	$78,651	$77,944	$85,047
EBIT Margin	**n.a.**	**n.a.**	**n.a.**	**4.9%**	**6.3%**	**6.2%**	**6.1%**	**6.4%**	**7.3%**	**7.6%**
Capital Intensity	**n.a.**	**n.a.**	**n.a.**	**0.6%**	**1.6%**	**1.2%**	**1.1%**	**0.6%**	**0.6%**	**0.6%**
Resources										
Revenue	n.a.	n.a.	n.a.	$315,216	$479,598	$403,462	$493,166	$745,573	$819,129	$940,553
EBIT	n.a.	n.a.	n.a.	$14,838	$30,515	$39,731	$51,450	$58,897	$60,548	$43,364
EBIT Margin	**n.a.**	**n.a.**	**n.a.**	**4.7%**	**6.4%**	**9.8%**	**10.4%**	**7.9%**	**7.4%**	**4.6%**
Capital Intensity	**n.a.**	**n.a.**	**n.a.**	**1.5%**	**0.5%**	**1.2%**	**1.5%**	**1.3%**	**1.3%**	**1.0%**

Source: United Group Annual Reports.

A.15. WorleyParsons Limited

A.38 WorleyParsons is an Australian listed company that provides engineering, design, operating, maintenance, asset and project management services to the energy, resource, complex process, water and wastewater industries. The company operates across fourteen counties including Australia, New Zealand, Asia, the US, Canada and Europe. WorleyParson's Australian clients have included Alcoa, BHP Billiton, Fortescue, WMC Resources, ExxonMobil, Shell, Mobil, OneSteel, Zinifex, FMG and Woodside.

A.39 WorleyParsons reports its financial results on a segment basis with the primary business segments being:

- the Power business, which provides design, engineering, procurement and construction management services to clients in the energy and electricity transmission network industries. The services provided by this business unit can broadly be characterised as network infrastructure services. This business unit has therefore been included in both the All Infrastructure sample set and the Network Infrastructure sub-set;
- the Infrastructure, which provides infrastructure related design, engineering and project services to the energy, transport, water, and waste water sectors. The services provided by this business unit can broadly be characterised as network infrastructure services. This business unit has therefore been included in both the All Infrastructure sample set and the Network Infrastructure sub-set;
- the Minerals and Metals business, which provides process design, engineering and other project services to the minerals and metals industries. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample; and
- the Hydrocarbons business, which provides design, engineering, project management and other project services to clients in the oil, gas, refining and petrochemical industries. The description of infrastructure assets serviced by this business unit indicates that its operations extend beyond network infrastructure services. This business unit has therefore only been included in the All Infrastructure sample.

A.40 WorleyParsons was listed on the ASX on 28 November 2002 and its EBIT data has only been reported since 2004.

Table A.15: WorleyParsons EBIT Margin ($000)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Power										
Revenue	n.a.	n.a.	$1,577	$191,420	$320,518	$528,100	$488,600	$545,800	$508,600	$534,900
EBIT	n.a.	n.a.	$560	$21,213	$46,080	$53,700	$57,900	$61,500	$37,800	$42,100
EBIT Margin	**n.a.**	**n.a.**	**35.5%**	**11.1%**	**14.4%**	**10.2%**	**11.9%**	**11.3%**	**7.4%**	**7.9%**
Capital Intensity	**n.a.**	**n.a.**	**0.0%**	**0.7%**	**0.6%**	**1.0%**	**1.0%**	**1.1%**	**1.8%**	**1.5%**
Infrastructure										
Revenue	n.a.	n.a.	$37,852	$59,185	$108,888	$208,100	$335,300	$349,600	$469,000	$700,500
EBIT	n.a.	n.a.	$2,445	$6,750	$7,423	$19,100	$39,900	$28,600	$46,000	$62,900
EBIT Margin	**n.a.**	**n.a.**	**6.5%**	**11.4%**	**6.8%**	**9.2%**	**11.9%**	**8.2%**	**9.8%**	**9.0%**
Capital Intensity	**n.a.**	**n.a.**	**0.5%**	**1.0%**	**1.4%**	**0.9%**	**2.4%**	**1.8%**	**1.7%**	**1.9%**
Minerals and Metals										
Revenue	n.a.	n.a.	$95,364	$159,819	$186,042	$259,900	$418,500	$582,500	$562,200	$643,200
EBIT	n.a.	n.a.	$14,949	$22,664	$26,221	$37,000	$73,300	$74,400	$59,300	$62,400
EBIT Margin	**n.a.**	**n.a.**	**15.7%**	**14.2%**	**14.1%**	**14.2%**	**17.5%**	**12.8%**	**10.5%**	**9.7%**
Capital Intensity	**n.a.**	**n.a.**	**0.4%**	**0.7%**	**0.6%**	**0.4%**	**1.3%**	**0.9%**	**1.3%**	**2.6%**
Hydrocarbons										
Revenue	n.a.	n.a.	$244,169	$841,935	$1,796,853	$2,491,000	$3,377,700	$4,734,200	$3,422,400	$4,018,600
EBIT	n.a.	n.a.	$28,821	$69,640	$156,937	$225,200	$355,800	$495,700	$337,200	$389,300
EBIT Margin	**n.a.**	**n.a.**	**11.8%**	**8.3%**	**8.7%**	**9.0%**	**10.5%**	**10.5%**	**9.9%**	**9.7%**
Capital Intensity	**n.a.**	**n.a.**	**1.6%**	**1.0%**	**0.8%**	**1.0%**	**1.4%**	**1.5%**	**2.0%**	**1.4%**

Source: Worley Parsons Annual Reports.

Appendix B. Statement of Compliance with Expert Witness Guidelines (Practice Note CM 7)

I have read the Guidelines for Expert Witnesses in Proceedings of the Federal Court of Australia as set out in Practice Note 7 and confirm that I have made all inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld from the Court.

Appendix C. Materials Relied Upon

A list of the information that I have relied upon in the preparation of this report is set out below.

C.1. Information provided by Envestra

The following information has been provided by Envestra:

- Amendment and Restatement Deed – Operating and Management Agreement (Stratus), 2 July 2007, Envestra Limited and Origin Energy Asset Management Limited; and
- Envestra spreadsheet entitled, '120125-Incentive Payments.xlsx'.

C.2. EBIT margin data

The list of annual reports and Form 388 filings that I have relied upon in the derivation of EBIT margins is set out below. It is worth noting in this context that where the company is listed on the ASX the annual reports have been obtained from either the company's website or the ASX website. For those companies that are not listed but are required to file a Form 388 with ASIC, the filings have been purchased from Citec Confirm, an independent information vendor.

The annual reports and Form 388 filings that have been relied upon include:

- Ausenco, Annual Reports, 2004-2007 & 2009-2010 and Financial Report, 2008;
- Bechtel Australia Pty Ltd, Form 388, 2003-2010;
- Clough Ltd, Annual Reports, 2003-2011;
- Downer EDI Limited, Annual Reports, 2003, 2008-2011 and Financial Reports, 2004-2007;
- Envestra, Annual Reports, 2003-2011;
- Fluor Australia Pty Ltd, Form 388, 2003-2010;
- Hatch Associates Pty Ltd, Form 388, 2003-2010;
- KBR Holdings Ltd (Australia), Form 388, 2003-2010;
- Lend Lease Corporation Limited, Annual Consolidated Financial Report, 2004-2011;
- Sinclair Knight Merz Holdings Ltd, Form 388, 2003-2011;
- SMEC Holdings Limited, Form 388, 2003-2011;
- Tenix Alliance Pty Ltd, Form 388, 2003-2011;
- Thomas & Coffey Ltd, Annual Reports, 2003-2008 and Financial Report, 2009-2011;
- Transfield Services Limited, Annual Reports, 2003-2007 & 2009-2011 and Financial Report, 2008 and 2010;
- United Group Limited, Annual Reports, 2005-2011;

- WorleyParsons Limited, Annual Reports, 2005-2011;
- Origin Energy, Annual Report, 2006 and Financial Statements, 2003-2005; and
- APA, Annual Report, 2009-2011.

C.3. Other material

- AER, *Final Decision – Victorian electricity distribution network service providers – Distribution determination 2011-2015*, October 2010;
- AER, *Draft Decision - Access arrangement proposal for the SA gas network 1 July 2011 – 30 June 2016*, February 2011;
- AER, *Final Decision – Access arrangement proposal for the SA gas network – 1 July 2011 – 30 June 2016*, June 2011;
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- *Application by Envestra Limited (No. 2)* [2012] ACompT 3;
- Business Review Weekly, *Cut-rate dispute*, 27 May 2004;
- Essential Services Commission, *Gas Access Arrangement Review 2008-2012: Draft Decision*, August 2007;
- Envestra Ltd, *South Australian Access Arrangement Information*, September 2010
- Herald Sun, *Clough liable for BassGas*, 5 June 2007;
- NERA, *Outsourcing by regulated businesses*, 28 March 2007;
- NERA, *Benchmarking contractor's profit margins*, 28 March 2007;
- NERA, *Allen Consulting Group's Review of NERA's Benchmarking of Contractors' Margins Critique*, October 2007;
- NERA, *Benchmarking contractors profit margins*, September 2010; and
- Origin Energy, *ASX Media Release – Origin Energy finalises sale of Network Business to APA*, 2 July 2007.

Appendix D. Curriculum Vitae

Katherine Lowe

Senior Consultant

NERA Economic Consulting
33 Exhibition Street
Melbourne VIC 3000
Tel: 03 9623 5216
E-mail: katherine.lowe@nera.com
Website: www.nera.com

Overview

Katherine Lowe has nine years experience as an economist working within the areas of energy, infrastructure regulation, securities litigation, competition, consumer protection, personal injury related liabilities and commercial macroeconomics.

Prior to joining NERA, Katherine was employed as an economist within the Economics Division of Macquarie Bank and the Compliance, Regulatory and Merger Divisions of the Australian Competition and Consumer Commission ('ACCC'). As a Research Assistant and Associate Economist in Macquarie Bank's Economic Division, Katherine examined macroeconomic trends within Australia and across Asia. In her capacity as an economist within the ACCC, Katherine's responsibilities included financial modelling, assessing asymmetric risks and rates of return, assessing forecast volumes, examining cost allocation methodologies and assessing anti-competitive practices.

Katherine has obtained a Bachelor of Business (majoring in Finance and Economics) from the University of Technology Sydney, a Master of Economics from the University of Sydney and a Master of Applied Finance from Macquarie University.

Qualifications

2003 - 2006	**MACQUARIE UNIVERSITY** Master of Applied Finance, majoring in Corporate Finance
2000-2001	**UNIVERSITY OF SYDNEY** Master of Economics
1994-1999	**THE UNIVERSITY OF TECHNOLOGY SYDNEY** Bachelor of Business Majoring in Finance and Economics

Career Details

2007-	**NERA ECONOMIC CONSULTING** Senior Consultant, Sydney
2005 -2006	**NERA ECONOMIC CONSULTING** Consultant, New York
2002-2004	**AUSTRALIAN COMPETITION AND CONSUMER COMMISSION** Associate Director/Senior Gas Analyst – Gas Group (final position)
1998-2002	**Macquarie Bank** Associate Economist – Asia (final position), Sydney

Project Experience

Energy and Infrastructure Regulation

2011-12 **Envestra**

Outsourcing arrangements

Retained to prepare an expert report on the principles that should be applied when assessing the prudency and efficiency of outsourcing arrangements and to respond to the AER's framework.

2011-12 **Xstrata**

Price of access to the Daly Waters to McArthur River Pipeline

Retained to provide advice on asset valuation methodologies and the manner in which prior capital contributions would be recognised under the National Gas Rules.

2011-12 **APA**

Auction design

Assisted with the preparation of an expert report on alternative auction designs and the optimal auction design for the Roma to Brisbane Pipeline.

2011 **Kelly & Co**

Price of access to Port Bonython Jetty

Assisted with the preparation of an expert report on matters relevant to the consideration of the price that should be paid for access to the Port Bonython Jetty, including the application of the cost of service based building block methodology.

2011 **CitiPower**

Regulatory Test

Retained to prepare a report on the application of the regulatory test to the proposed augmentation for Melbourne Inner Suburbs and CBD Supply.

2010-2012 **Envestra**

Margins Levied by Asset Management Service Providers

Retained to prepare an expert report on the operating margins levied by asset management service providers.

2010 **Minter Ellison / UNELCO**

Review of regulatory decision by the Vanuatu regulator

Assisted with the preparation of an expert report that addressed a range of matters arising from the Vanuatu regulator's decision on the base price to apply under four electricity concession contracts entered into by UNELCO and the Vanuatu Government. The matters considered included the methodology employed to calculate the new base price, the appropriateness of the rate of return, the decision by the regulator to retrospectively bring to matters from the prior regulatory period.

2010 **CitiPower/Powercor**

Outsourcing arrangements

Retained to provide advice on the factors that should be considered when assessing the prudency and efficiency of outsourcing arrangements.

2010 **Jemena**

Outsourcing arrangements

Retained to provide advice on the factors that should be considered when assessing the prudency and efficiency of outsourcing arrangements.

2010 **Barclays Capital / Confidential Client**

Due diligence Alinta Energy Ltd

Assisted with the provision of advice on the key industry related risks and issues facing Alinta Energy Ltd's gas and electricity assets during the due diligence process associated with the proposed sale or recapitalisation of Alinta Energy Ltd.

2009 **Orion**

Asset valuation methodologies

Assisted with the preparation of a joint report (prepared with PWC) on the alternative asset valuation methodologies used by Australian regulators when establishing the opening value of the asset base.

2009 **United Energy**

Depreciation methodologies

Retained to provide advice on the alternative depreciation methodologies that may be used under the National Electricity Rules.

2009 **CitiPower/Powercor**

Total Factor Productivity

Assisted with the provision of advice to CitiPower and Powercor on TFP related issues arising from the AEMC's review into the use of TFP for the determination of prices and revenues.

2009 **CitiPower/Powercor**

Connection of renewable generation

Retained to provide advice on the connection of renewable generation under the National Electricity Rules.

2008-09 **Clayton Utz/Confidential Client**

Gas supply agreement arbitration

Assisted with the preparation of an expert report used in the context of an arbitration relating to the price that should apply following a price reset within a long term major gas supply agreement.

2008-09 **Santos**

Development of Revenue and Tariff Models for Pipeline Access

Retained to provide advice on the alternative methods for calculating third party access tariffs and to develop revenue and tariff models for liquids pipelines.

2008 **BG**

Advice on Eastern Australia Gas Market

Retained to provide advice on the operation of the Eastern Australia Gas Market.

2008 **AEMC**

Review of the Effectiveness of Retail Competition in South Australia

Seconded to the AEMC to assist in the preparation of the AEMC's First Draft Report setting out the preliminary findings in its review of the effectiveness of retail competition in South Australia.

2008 **AEMC**

WACC Rule Change Proposals

Seconded to the AEMC to assist with the drafting of two rule change proposals submitted by the AER relating to the weighted average cost of capital.

2008 **DEWHA**

Energy Efficiency

Assisted with an international review of energy efficiency policies and policy frameworks and the drafting of a report that set out the findings of this review.

2008 **TransGrid**

Review of Post-Tax Revenue Model and Roll Forward Model

Assisted with a review of TransGrid's post-tax revenue model and roll forward model and provided advice on the consistency between these models and the AER's guidelines.

2008 **Australian Energy Market Commission**

Update of Review of the Wholesale Gas and Electricity Markets and Implications for Retail Competition

Retained to update earlier reports prepared for the AEMC that provided an overview of the operation and structure of the wholesale gas and electricity markets within the National Electricity Market (NEM) jurisdictions.

2007 **Ministerial Council on Energy Smart Meter Working Group**

Cost Benefit Analysis of Proposed Smart Meter Infrastructure Rollout

Assisted with the preparation of a report and the underlying analysis that examined the consumer related effects of a smart meter and direct load control roll out. This entailed modelling the changes to the pattern of consumption and the overall level of demand flowing from the introduction of time of use tariffs, critical peak pricing and direct load control. Consideration was also given to the change in consumer surplus which was decomposed into the redistribution of surplus between consumers, retailers, generators and networks and the net societal loss or gain.

2007 **TransGrid**

Inflation Rate Estimates

Retained to provide advice on the appropriate inflation rate to utilise when setting tariff and revenue requirements under the National Electricity Rules.

2007 **Multinet**

Inflation Rate Estimates

Retained to provide advice on the appropriate inflation rate to utilise when setting tariff and revenue requirements under the National Gas Code.

2007 **Multinet**

Review of Outsourcing Infrastructure Asset Management Contracts

Assisted with the preparation of an expert report that established a framework for assessing whether outsourcing contracts complied with the prudent and efficient service provider provisions of the National Gas Code.

2007 **Envestra**

Review of Outsourcing Infrastructure Asset Management Contracts

Assisted with the preparation of an expert report that established a framework for assessing whether outsourcing contracts complied with the prudent and efficient service provider provisions of the National Gas Code. Also assisted with the preparation of a benchmark study of margins levied by asset management service providers.

2007 **Australian Energy Market Commission**

Review of the Wholesale Gas and Electricity Markets and Implications for Retail Competition

Retained to provide an overview of the operation and structure of the wholesale gas and electricity markets within the National Electricity Market (NEM) jurisdictions and to identify the issues that the AEMC should consider when assessing the influence of the wholesale markets on competition within the retail gas market in each jurisdiction.

2007 **Ministerial Council on Energy**

Review of Chapter 5 of the National Electricity Rules

Assisted with the preparation of a joint report (prepared with the Allen Consulting Group) that provided advice on the development of a national framework for connection applications and capital contributions in the context of the National Electricity Rules.

2007 **Powercor/CitiPower**

Advice on Related Party Outsourcing Arrangements

Assisted with the preparation of advice on the manner by which regulatory concerns surrounding related party outsourcing arrangements may be ameliorated.

2007 **Optus, Australia**

Development of a Special Access Undertaking

Assisted with the preparation of advice on the pricing principles that should be incorporated into the Fibre to the Node Special Access Undertaking.

2006 **Freehills/South Australian Gas Producers, NSW and South Australia**

Gas supply agreement arbitration

Assisted with the preparation of an expert report that was used in the context of an arbitration relating to the price that should apply following a price reset within a long term major gas supply agreement between the South Australian gas producers and a large retail customer in NSW and South Australia.

2006 **Australasian Railway Association**

Assistance with the development of a submission in response to the Productivity Commission's road and rail review

Assisted in the review and evaluation of the Productivity Commission's draft report investigating road and rail pricing.

2006 **Australian Energy Regulator**

Review revenue and tariff model submitted by gas transmission pipeline owner

Audited the revenue and tariff model supplied by a gas transmission pipeline owner.

2006 **Australasian Railway Association**

Comparative assessment of road and rail regulatory regimes

Assisted in the drafting of a comparative study of the regulatory approaches, and institutional structures adopted within the road and rail sectors. The aim of the study was to draw out relevant features and inconsistencies between road and rail infrastructure in each of the key jurisdictions in Australia.

Antitrust

2012 **SMIT Marine**

Exclusive Licence

Retained to prepare a report responding to a range of matters raised in an expert report that formed part of Svitzer Australia's submission to the Australian Competition and Consumer Commission on the exclusive licensing of towage services at the Port of Gladstone and the Port of Townsville.

2011-12 **DLA Piper/Confidential Clients, UK**

Coking Coal Supply Disruption

Assisted in the preparation of an expert report on the potential effects of two wet weather events on the benchmark price for hard coking coal and the attendant damage suffered by affected mines.

2010-12 **Mallesons/APA**

Proposed acquisition of Epic Energy by APA

Assisted in the preparation of an expert report on the likely effect of APA's proposed acquisition of Epic Energy's gas transmission pipelines in eastern Australia on competition in the relevantly defined markets.

2010-11 **Victorian Government Solicitor/State of Victoria**

Competitive effects of water trading rules

Assisted in the preparation of an expert report on the effects of certain restrictions applying to the trading of water rights under Victorian law on inter-state trade in the context of a constitutional challenge brought against the state of Victoria by the state of South Australia.

2010 **Gilbert + Tobin Lawyers/Confidential Client, Australia**

Joint Venture

Assisting in the review of the competitive implications under s50 of the Trade Practices Act of the proposed joint venture between BHP Billiton and Rio Tinto to produce iron ore.

2010 **Norton Rose/Alinta**

Unconscionable conduct

Assisted in the preparation of an expert report on the risks faced by gas retailers when selling gas to retail customers.

2009 **DLA Phillips Fox /Fortescue**

Part IIIA - Access to Essential Infrastructure

Assisted in the preparation of expert reports on matters arising in interpreting the criteria for declaration under Part IIIA of the Trade Practices Act.

2009-11 **Arnold & Porter LLP/Confidential Client, New York**

Alleged Breach of the Sherman Act

Assisted in the preparation of an expert report in the context of proceedings brought against a confidential client alleging an anticompetitive conspiracy or agreement.

Securities

2008-09 **Freehills/Confidential Client**

Preliminary Estimate of Damages Associated with Potential Securities Class Action

Assisted with the provision of preliminary estimates on the magnitude of damages associated with a potential shareholder class action arising from accounting misstatements and/or breach of the continuous disclosure obligations of an ASX listed entity. The work undertaken

for this client entailed preparing background briefing papers, undertaking an event study, considering the fundamental value of the 'misleading' announcement and preparing a report setting out the preliminary estimates and the assumptions underlying those estimates.

2007 **Freehills/Telstra**

Shareholder damages assessment

Assisted with the provision of advice on the damages estimates developed by the opposing experts in the context of a damages claim alleging that Telstra failed to disclose information to the ASX.

2005-06 **Mass Torts and Securities divisions**

Over 2005-06 Katherine worked within the New York office where she was principally involved in the examination of the expected personal injury related liabilities of major US companies arising from asbestos and other similar products. Katherine's responsibilities in this area included the construction of valuation models to measure the expected value of asbestos-related and welding rod related liabilities, as well as replicating the valuation models of other experts and drafting rebuttal reports to identify weaknesses in the assumptions and techniques employed by other experts.

Over this period Katherine was also involved in a high profile securities class action, Polymedica. NERA's analysis in the Polymedica case resulted in a number of new factors being incorporated into the test for whether a market is operating efficiently.

Prior Work Experience

2003-04 **Australian Competition and Consumer Commission**

Gas Transmission Pipeline Regulation Group

Katherine primarily worked on a decision relating to the terms and conditions of access to a regulated gas pipeline. As part of this role, Katherine carried out the financial modelling required to estimate the overall revenue requirement of the pipeline and the associated tariffs and was also involved in the research, assessment and drafting of several aspects of the ACCC's Final Decision and Final Approval.

Following the appeal of the ACCC's Final Approval to the Australian Competition Tribunal, Katherine was extensively involved in the preparation and briefing of the solicitors, counsel and the Tribunal.

While working in this Group, Katherine also assessed the Ring Fencing arrangements put in place by service providers to establish whether or not the arrangements complied with provisions within the Gas Code. In addition, Katherine co-authored a paper which evaluated

the level of responsibility to be taken by the CEO and Non-Executive Directors when signing Ring Fencing reports.

2002-03 **Australian Competition and Consumer Commission**
Mergers and Asset Sales Branch

Katherine was involved in the examination of proposed mergers to assess whether they would have the effect, or would be likely to have the effect, of substantially lessening competition. This role involved the practical assessment and application of economic theory to issues such as market definition, demand and supply side substitution possibilities, strategic and structural barriers to entry, countervailing power, and the likely effect of proposed mergers on prices and profit margins.

2002 **Australian Competition and Consumer Commission**
Transport and Prices Oversight Branch

Katherine predominantly worked on a price notification by Airservices Australia and also assisted in the assessment of a price notification by Australia Post. The Airservices Australia price notification required Katherine to assess the company's revenue requirements and the appropriate rate of return to be generated.

Katherine also assisted in drafting a chapter of the ACCC's Preliminary View entitled Australia Post's Productivity. This chapter examined Australia Post's historic and projected productivity growth to assess both the efficiency of Australia Post's current cost base and the reasonableness of its projected operating and maintenance costs. The chapter also examined the need to encourage Australia Post to continue to seek out efficiency gains and cost reductions by putting in place the necessary incentives.

1998-2002 **Macquarie Bank**

In her role at Macquarie Bank, Katherine assisted the Regional Economist, located in Hong Kong, with the research and analysis of commercially relevant economic and financial market information (such as GDP, inflation, unemployment, movements in currencies, stock markets, bond yields and structural reforms) and the preparation of reports for clients. Katherine also worked within a busy trading operation, as sole support to Foreign Exchange, Bullion and Base Metals dealers through the New York shift.

Appendix E. Instructions

Partner: Anthony Groom +61 8 8239 7124
Email: anthony.groom@jws.com.au
Associate: Joanna Burrow +61 8 8239 7137
Email: joanna.burrow@jws.com.au
Our Ref: A6403
Your Ref:
Doc ID: 62034283.1

26 March 2012

Ms Katherine Lowe
Senior Consultant
NERA Economic Consulting
33 Exhibition Street
MELBOURNE VIC 3000

Dear Ms Lowe

Envestra – Victorian and Albury Access Arrangement Review

We act for Envestra Limited (**Envestra**) in relation to the AER's review of Envestra's Access Arrangements for Victoria and Albury.

Envestra wishes to engage you to prepare an expert report in connection with the AER's review of Envestra's Access Arrangements for Victoria and Albury.

This letter sets out the matters which Envestra wishes you to address in your report and the requirements with which the report must comply.

Terms of Reference

The terms and conditions upon which Envestra provides access to its network are subject to five yearly reviews by the AER.

The AER undertakes that review by considering the terms and conditions proposed by Envestra against criteria set out in the National Gas Law and National Gas Rules. The matters that will be considered by the AER include how Envestra's proposed costs of provision of services (and consequent prices for services) compare against those criteria.

It is anticipated that one aspect of Envestra's costs which the AER may wish to consider is the amounts paid by Envestra to APA for the operation of its networks.

In this context, Envestra wishes to engage you to update the benchmarking study which you undertook for Envestra in 2010 and which was submitted to the AER for the 2011 South Australian Access Arrangement Review, comparing the operating margin received under Envestra's outsourcing arrangement with those received by other infrastructure asset managers and contractors.

Further in your report, please also respond to the methodological and other matters raised by the AER in Appendix C of the *Final Decision – Access arrangement proposal for the SA gas network.*

Use of Report

It is intended that your report will be included by Envestra in its access arrangement revision proposals for its Victorian and Albury networks for the access arrangement period from 1 January 2013 to 31 December 2017. The report may be provided by the AER to its own advisers. The report must be expressed so that it may be relied upon both by Envestra and by the AER.

The AER may ask queries in respect of the report and you will be required to assist Envestra in answering these queries. The AER may choose to interview you and if so, you will be required to participate in any such interviews.

The report will be reviewed by Envestra's legal advisers and will be used by them to provide legal advice to Envestra as to its rights and obligations under the National Gas Law and National Gas Rules. You will be required to work with these legal advisers and Envestra personnel to assist them to prepare Envestra's access arrangement revision proposals and submissions in response to the draft and final decisions made by the AER.

If Envestra chooses to challenge any decision made by the AER, that appeal will be made to the Australian Competition Tribunal and the report will be considered by the Tribunal. Envestra may also seek review by a court and the report would be subject to consideration by such court. You should therefore be conscious that the report may be used in the resolution of a dispute between the AER and Envestra as to the appropriate level of Envestra's distribution tariffs. Due to this, the report will need to comply with the Federal Court requirements for expert reports, which are outlined below.

You must ensure you are available to assist Envestra until such time as the Access Arrangement Review and any subsequent appeal is finalised.

Time Frame

Envestra's access arrangement revision proposals are due by 30 March 2012. We request that you provide your report to us or Envestra by 28 March 2012 so that we may finalise Envestra's submissions in advance of the due date.

Compliance with the Code of Conduct for Expert Witnesses

Attached is a copy of the Federal Court's Practice Note CM 7, entitled "Expert Witnesses in Proceedings in the Federal Court of Australia", which comprises the code of conduct for expert witnesses in the Federal Court of Australia (**the Code of Conduct**).

Please read and familiarise yourself with the Code of Conduct and comply with it at all times in the course of your engagement by Envestra.

In particular, your report prepared for Envestra should contain a statement at the beginning of the report to the effect that the author of the report has read, understood and complied with the Code of Conduct.

Your report must also:

1 contain particulars of the training, study or experience by which the expert has acquired specialised knowledge;

2 identify the questions that the expert has been asked to address;

3 set out separately each of the factual findings or assumptions on which the expert's opinion is based;

4 set out each of the expert's opinions separately from the factual findings or assumptions;

5 set out the reasons for each of the expert's opinions; and

6 otherwise comply with the Code of Conduct.

The expert is also required to state that each of the expert's opinions is wholly or substantially based on the expert's specialised knowledge.

It is also a requirement that the report be signed by the expert and include a declaration that *"[the expert] has made all the inquiries which [the expert] believes are desirable and appropriate and that no matters of significance which [the expert] regards as relevant have, to [the expert's] knowledge, been withheld from the report."*

Please also attach a copy of these terms of reference to the report.

Terms of Engagement

Your contract for the provision of the report will be directly with Envestra. You should forward to Envestra any terms you propose govern that contract as well as your fee proposal. Your invoices for the production of the report are to be addressed and sent to Envestra.

Contact Details

All enquiries to Envestra should be made to Craig de Laine on 08 8418 1129 or craig.delaine@envestra.com.au.

Please sign a counterpart of this letter and forward it to Envestra to confirm your acceptance of the engagement by Envestra.

Yours faithfully

Johnson Winter & Slattery

Enc: Federal Court of Australia Practice Note CM 7, "Expert Witnesses in Proceedings in the Federal Court of Australia"

……
Signed and acknowledged by Ms Katherine Lowe

Date ……..

NERA
ECONOMIC CONSULTING

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