

Jemena Gas Networks (NSW) Ltd - Initial response to the draft decision

Appendix 9.11

NERA: Allen Consulting Group's Review of NERA's Benchmarking of Contractors' Margins Critique for Envestra

19 March 2010



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October 2007

Allen Consulting Group's Review of NERA's Benchmarking of Contractors' Margins Critique Envestra



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Executive Summary

Background

- i. In March 2007 Envestra submitted two reports prepared by NERA Economic Consulting (NERA) to the Victorian Essential Services Commission (ESC) for consideration within the context of the 2008-12 Gas Access Arrangement Review. The first of these reports, entitled “Outsourcing by regulated businesses”, commenced by examining the outsourcing arrangement assessment framework adopted by the ESC in the 2006-10 Electricity Distribution Pricing Review. In view of perceived shortcomings with this framework, an alternative assessment framework was developed. This framework was designed to clarify the criteria that should be employed when assessing outsourcing contracts against the prudence, efficiency, good industry practice and lowest sustainable cost objectives specified in sections 8.37 and 8.16(a)(i) of the *National Third Party Access for Natural Gas Pipeline Systems* (Code). This alternative assessment framework was then used to examine whether the Envestra - Origin Energy Asset Management (OEAM) Operating and Management Agreement (OMA) and the costs incurred under that contract were consistent with a prudent service provider, acting efficiently, in accordance with accepted and good industry practice.
- ii. A key finding of this report was that prudently incurred outsourcing contracts **will** generally include a margin on the contractor’s directly incurred costs. It was also noted in the report that the payment of such margins is consistent with both economic theory and observed good industry practice and will tend to reflect:
 - § the contractor’s ability to provide the service at a lower cost than the purchaser could obtain elsewhere (eg, a return to the ‘know how’ of the contractor);
 - § the required return on and return of physical and intangible assets employed by the contractor in the provision of the service;
 - § efficiencies on the part of the contractor over the life of the contract (eg, where the contract allows some part of these to be retained by the contractor);
 - § the allowance required to meet the contractor’s common costs; and
 - § the allowance required to self insure against the asymmetric risks faced by the contractor.
- iii. Against this backdrop a benchmark study of the earnings before interest and tax (EBIT) margins earned by 25 comparable outsourcing entities over the period 2002-2006 was undertaken. The purpose of this study was to ascertain whether the margin paid under the OMA was consistent with the margins generated by other comparable outsourcing entities.
- iv. The results of this study were set out in a second report entitled “Benchmarking contractor’s profit margins” and in summary indicated that:
 - § the average EBIT margin earned across the entire sample (referred to as the “All Infrastructure sample set”) over 2002-2006 was 5.7%; and

§ the average EBIT margin generated by a sub set of the comparable companies that provided contracting services to network infrastructure assets (referred to as the “Distribution Infrastructure Sub Set”) over 2002-2006 was 8.2%.

Drawing on the EBIT margins generated by all the entities in the sample a two-tailed 95% confidence interval for the true population mean was estimated and used to examine whether the margin paid under the OMA fell within the range observed for comparable outsourcing firms. The results of this analysis indicated that the 95% confidence interval for the true population mean ranged from 4.5% to 6.9%. This range encompassed the margin payable by Envestra to OEAM both including (6.4%) and excluding (5.6%) incentive payments and thus it was concluded that the payment of such a margin was consistent with accepted and good industry practice.

Allen Consulting Group Review

- v. The Allen Consulting Group (ACG) were engaged by the ESC to undertake a detailed review of both the methodology and the analysis underlying the “Benchmarking contractor’s profit margins” report. The results of ACG’s review are set out in a report entitled “Benchmarking of Contractors’ Margins – Review of NERA and PricewaterhouseCoopers Reports”.¹
- vi. In summary, ACG broadly agreed that the methodology developed by NERA to establish a set of companies providing comparable contracting services, and to estimate the margins earned by those companies, was appropriate. However, ACG was critical of the inclusion of a number of companies in the sample set and the inclusion of joint venture interests in the calculation of EBIT margins. Specifically, ACG was of the view that:
 - § companies that derived a substantial portion of revenue from ‘non-arm’s length’² transactions such as Alinta Asset Management, Agility and Origin Energy-Networks should be excluded from the analysis;
 - § the revenues and profits derived through joint venture arrangements should be excluded from the calculation of EBIT margins because the margins generated through such arrangements may not be indicative of the margins that would be earned when undertaking its principal activities; and
 - § the EBIT margins generated by Fluor over the period 2002 to 2005 and the margins generated by WorleyParsons Power in 2004/05 should be excluded from the analysis because their data appeared to exhibit some anomalies.
- vii. We disagree with each of these contentions for the following reasons.
- viii. First, in our opinion, the threshold adopted by ACG for excluding entities such as Alinta Asset Management, Agility and Origin Energy-Networks from the sample has been set

¹ ACG also reviewed a report prepared for Envestra by PricewaterhouseCoopers, but the matters raised in that part of ACG’s report are not considered here.

² For simplicity we have adopted the terminology utilised by ACG in this context although we note that ACG has not demonstrated that the transactions it has referred to were actually undertaken on a ‘non-arm’s length’ basis or between ‘related parties’.

too low and oversimplifies the analysis that would be required to form a clear conclusion that the arrangements in question actually involve some level of transfer pricing. We also disagree with ACG's implicit assumption that all transactions entered into on a 'non-arm's length' basis involve transfer pricing and therefore give rise to upwardly biased margin estimates. ACG have provided no evidence to this effect and our own comparative analysis of the margins earned by OEAM across its portfolio of contracts and under the OMA indicates that there is no obvious bias in the margins earned on contracts that ACG alleges have been undertaken on a non-arm's length basis. Overall, we are of the opinion that these three entities should be retained in the sample.

- ix. Second, ACG's assertion that the margins derived through joint ventures should be excluded from the sample is unfounded. Although ACG have contended that the margins earned through such arrangements would not be indicative of the margins the entity would earn when undertaking its principal activities, it has provided no evidence to support this contention. In our opinion, there is no reason to expect that the margins earned through joint ventures would be any higher than those earned by the contractor undertaking its activities on an individual basis and if anything the margins may be lower if the joint venture results in a sharing of risk or is undertaken to achieve the required scale. The annual reports we have reviewed indicate that joint venture arrangements are a standard mechanism used by contractors and thus if these were to be excluded from the analysis the sample would fail to be representative and reflect the spectrum of possible outcomes.
- x. Finally, we disagree that the margins earned by Fluor and WorleyParsons should be excluded simply because they exhibit some level of volatility across the sample period. The earnings volatility exhibited by these two entities simply reflects the commercial reality of outsourcing wherein contractors can earn positive margins in some years and make losses (ie, negative margins) in other years. In our opinion, it is important to ensure that the sample is representative of the spectrum of possible outcomes and thus entities such as Fluor and WorleyParsons Power should be retained in the sample.

Analysis of ACG's revised estimates

- xi. In addition to the issues outlined above ACG also undertook a detailed review of the EBIT margins contained in the "Benchmarking contractor's profit margins" report and submitted that a number of errors had been made in the calculation of EBIT margins. ACG concluded that if these issues were addressed then the average margin for the All Infrastructure Sample set would fall from 5.7% to 4.1% and the 95 per cent confidence interval for the true population mean would similarly fall from 4.5% - 6.9% to 2.6% - 5.4%.
- xii. Decomposing ACG's estimated reduction in the average margin, it would appear that:
 - § the removal of joint venture interests from the EBIT margin estimates, coupled with the adjustments made to address the claimed errors in NERA's report, resulted in a 1.2% reduction in the 5.7% average margin previously estimated by NERA;
 - § the subsequent removal of Alinta Asset Management, Agility and Origin Energy-Networks from ACG's revised calculations reduced the average by a further 0.8% from 4.5% to 3.7%; and

- § the exclusion of Fluor over the period 2002 to 2005 and WorleyParsons Power in 2004/05 increased the average by 0.4% from 3.7% to 4.1%.
- xiii. Although it is difficult to distinguish between the change in the average EBIT margin estimated by ACG arising as a result of the correction of claimed errors and the exclusion of joint venture arrangements, we have estimated the effect on our earlier results of addressing a number of the errors cited by ACG that we agree should be addressed. After incorporating these adjustments, our original estimate for the entire sample fell by 0.18%. It is important to note in this context that the errors cited by ACG were not made systematically across the sample and, as these results demonstrate, were not material to the results of our analysis.
- xiv. Based on the foregoing it would appear that the change in the average margin calculated by ACG can largely be attributed to its exclusion of Alinta Asset Management, Agility and Origin Energy–Networks, Fluor and WorleyParsons Power from the sample and the revenue and profits derived through joint venture arrangements.

Conclusion

- xv. Whilst we acknowledge that some small errors were inadvertently made in the calculation of the EBIT margins we do not agree with ACG's contentions relating to the exclusion of:
- § the EBIT margins generated by Alinta Asset Management, Agility, Origin Energy – Networks and Fluor over the entire sample period and WorleyParsons Power in 2004/05; or
- § the revenue and profits derived through joint venture arrangements.
- xvi. Our revised results therefore simply incorporate the adjustments necessary to address the calculation related errors we agree were made. Table 1.1 provides a summary of the adjustments that have been made to the average EBIT margin over 2002-2006 for each of the entities in the sample and sets out the subsequent changes to the sample average and 95% confidence interval for the true population mean.
- xvii. Examining this table it is immediately apparent that the revisions have not had a material effect on the overall results. Specifically:
- § the average EBIT margin has fallen by just 0.18% from 5.7% to 5.5%; and
- § the two-tailed 95% confidence interval for the true population mean extends from 4.3% to 6.7% rather than the 4.5% to 6.9% previously estimated.
- xviii. Although the sample mean and the upper bound of the confidence interval associated with it have decreased, the average EBIT margin paid by Envestra to OEAM under the OMA - both including incentive payments (6.4%) and excluding incentive payments (5.6%) - remains within the range set by the 95% confidence interval for the true population mean. Accordingly, the conclusions reached in our original report are still valid.

Table 1.1: Revised EBIT Margins compared to original estimates (Average 2002-2006)

		Company	Business Segment	Original results average 2002-06	Revised results average 2002-06	Difference
All Infrastructure Sample Set	Distribution Infrastructure Sub Set	AGL	Agility	13.1%	13.1%	0.0%
		Alinta	Asset Management	10.4%	10.8%	0.4%
		Origin Energy	Networks	6.1%	6.1%	-
		Tenix Alliance		0.9%	0.9%	0.0%
		United Group	Infrastructure	6.6%	5.9%	-0.7%
		Downer EDI	Infrastructure	5.2%	5.1%	-0.1%
		WorleyParsons	Power	13.2%	13.2%	0.0%
			Infrastructure	8.1%	8.1%	-
		Transfield Services	Services	1.3%	1.3%	0.0%
		United Group	Rail	5.6%	5.6%	-
			Resources	5.7%	5.7%	-
		Downer EDI	Rail	6.1%	5.9%	-0.2%
			Engineering	3.2%	3.2%	-
		Thomas & Coffey		1.0%	1.0%	-
		WorleyParsons	Minerals and Metals	14.5%	14.5%	-
			Hydrocarbons	8.6%	8.6%	-
		Clough		-2.8%	-3.1%	-0.3%
		Sinclair Knight Merz		9.7%	10.7%	1.0%
		KBR Holdings		5.6%	4.5%	-1.1%
		Fluor Australia		-1.5%	-1.6%	-0.1%
		SMEC Holdings		5.1%	5.0%	-0.1%
		Bechtel Australia		-0.9%	-1.5%	-0.7%
		Hatch Associates		9.7%	9.4%	-0.3%
	Ausenco		10.3%	8.8%	-1.6%	
	Lend Lease Corporation	P. Mgt and Construction	1.9%	1.9%	-	
<i>Distribution Infrastructure Sub Set</i>						
Mean				8.2%	8.2%	0.04%
<i>All Infrastructure Sample Set</i>						
Mean				5.7%	5.5%	-0.18%
95% confidence interval for the true population mean				4.5% to 6.9%	4.3% to 6.7%	-0.15% -0.17%
99% confidence interval for the true population mean				4.1% to 7.2%	3.9% to 7.1%	-0.15% -0.18%

1. Introduction

1. This report has been prepared by both Greg Houston (Director) and Katherine Lowe (Consultant) of NERA Economic Consulting (NERA). We have both read the Guidelines for Expert Witnesses in Proceedings of the Federal Court of Australia and have made all inquiries that we believe are desirable and no matters of significance which we regard as relevant have, to the best of my knowledge, been withheld in the preparation of this report. A copy of our Curriculum Vitae is attached in Appendix B. We have been assisted in the preparation of this report by Tara D'Souza and Shane Anderson. Notwithstanding this assistance, the opinions in this report are our own and we take full responsibility for them.
2. We have been retained by Envestra to respond to the issues raised by the Allen Consulting Group (ACG) in a report prepared for the Victorian Essential Services Commission (ESC) entitled "Benchmarking of Contractors' Margins – Review of NERA and PricewaterhouseCoopers Reports". ACG's report reviews an earlier paper prepared by NERA³ for Envestra entitled "Benchmarking contractor's profit margins" that was submitted to the ESC in the context of the 2008-12 Gas Access Arrangement Review.
3. In summary, ACG broadly agreed that the methodology employed by NERA when undertaking the benchmark study was appropriate although it was critical of a number of specific issues pertaining to the composition of the sample. Specifically, ACG was critical of the inclusion of entities in the sample that:
 - § derive a significant portion of revenue from 'non-arm's length' transactions;
 - § derive income from joint ventures; and
 - § exhibit volatility or some other anomaly over the sample period.
 ACG also identified a number of errors in the calculation of earnings before interest and tax (EBIT) margins for individual companies that it submitted should be addressed.
4. The remainder of this report is structured as follows:
 - § Chapter 2 responds to the criticisms raised by ACG in relation to the sample composition;
 - § Chapter 3 sets out the revised results of our benchmark study which incorporates the amendments we agree should be made to address a number of small calculation errors made in the calculation of the EBIT margins for individual entities; and
 - § Appendix A contains an overview of the company specific calculation errors cited by ACG and sets out our response to each of the claimed errors. Where relevant this section also sets out revised EBIT margin estimates.

³ ACG also reviews a report prepared for Envestra by PricewaterhouseCoopers, but the matters raised in that part of ACG's report are not considered here.

2. Issues raised by ACG

5. As noted in the introduction, ACG was critical of the inclusion in the sample of companies providing comparable contracting services:
 - § companies that derived a substantial portion of revenue from non-arm's length transactions;
 - § the revenues and profits derived through joint venture arrangements in the EBIT margin calculations; and
 - § the EBIT margins generated by Fluor over the period 2002 to 2005 and the margin generated by WorleyParsons Power in 2004/05.
6. Before examining these issues, it is instructive to recall that one of the key objectives in undertaking this study was to test whether the size of the margin payable under an outsourcing contract was reasonable having regard to the size of margins observed for other businesses providing comparable services to those provided under the contract. We noted in our original report that if the margin paid on the contract in question is within the range of margins earned by comparable businesses, then the presumption should be that, in the absence of any other powerful information to the contrary, the payment of a margin is prudent.
7. Within this context the sample set used to assess the reasonableness of the margin paid under the contract in question 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. It is with this in mind that we have examined the criticisms raised by ACG.

2.1. Exclusion of companies that generate a substantial proportion of income from non-arm's length transactions

8. One of the principal criticisms raised by ACG is that the sample of comparable entities should exclude those companies, such as Agility, Alinta Asset Management and Origin Energy – Networks, that derive a large proportion of their income from non-arm's length transactions. Although ACG does not explicitly state so, it would appear that this decision stems from a broader presumption that non-arm's length transactions may be used as vehicles for transfer pricing and, as a consequence, the margin generated by contractors that are party to such arrangements may be upwardly biased.
9. While we agree with the principle that contractors engaging in transfer pricing via outsourcing arrangements should be excluded from such an analysis, we disagree with the presumption that all transactions entered into on a 'non-arm's length'⁴ basis involve transfer pricing and therefore result in biased margins. We are also of the opinion that the threshold adopted by ACG for excluding entities from the sample oversimplifies what can

⁴ For simplicity we have adopted the terminology utilised by ACG in this context although we note that ACG has not demonstrated that the transactions it has referred to were actually undertaken on a 'non-arm's length' basis.

only be described as a complex task, as evidenced by the ESC’s own consideration of this issue. These issues are examined in further detail below.

Presumption that ‘non-arm’s length’ transactions result in margins that are biased

10. As noted above ACG’s decision to exclude Origin Energy – Networks, Agility and Alinta appears to be predicated on the presumption that contracts entered into on a ‘non-arm’s length’ basis will result in the payment of upwardly biased margins to the contractor. Interestingly, ACG provide no clear evidence to this effect.
11. We have sought to examine this issue by comparing the margin earned by Origin Energy – Networks under the OMA it has in place in Queensland, Victoria and South Australia with that earned on its contracts with third parties such as Coliban Water and the Epsom Bio-Solids facility at Bendigo. This analysis is set out in the table below which compares our earlier estimates of the margin received by Origin Energy – Networks across its portfolio of contracts with that earned under the OMA. The first of these estimates was derived using data from Origin Energy’s annual reports while the margins payable under the OMA were estimated using information contained in Envestra’s annual reports and information provided by Envestra in relation to the incentive bonuses paid over the period.⁵

Table 2.1: EBIT margin received by OEAM under the OMA versus margin received by Origin Energy – Networks

Parameter		2002	2003	2004	2005	2006
OMA EBIT Margin Including Incentives	A	7.3%	6.5%	6.3%	6.0%	5.9%
Origin Energy – Networks EBIT Margin	B	6.3%	4.8%	3.6%	7.7%	8.0%
<i>Difference between portfolio margin and OMA margin including incentives¹</i>	<i>C=B-A</i>	<i>-1.0%</i>	<i>-1.7%</i>	<i>-2.7%</i>	<i>+1.7%</i>	<i>+2.1%</i>

1. A negative difference implies that the margin earned across the portfolio is lower than that received under the OMA. Conversely, a positive difference implies that the margin earned across the portfolio is higher than that received under the OMA.

12. Examining this table it is immediately apparent that no firm conclusion can be reached about the margins that will be earned on contracts with third parties relative to those that will be earned on contracts between ‘related’ parties. Over the period 2002 to 2004 the margin received under the OMA (including incentive payments) is 1.0 – 2.7% higher than that received across the portfolio. From 2005 this trend is reversed with the margin received under the OMA being 1.7 – 2.1% lower than that received across Origin Energy – Networks portfolio of contracts. If one takes into account the fact that a large proportion of the income derived by Origin Energy – Networks arises from the OMA then it is clear that the margin received by Origin Energy – Networks from its third party contracts over 2005 and 2006 would have had to have been substantially higher than that received under the OMA to increase the average to 7.7 – 8.0%.

⁵ This information was supplied to us by Envestra in a spreadsheet entitled “Incentive Fee-OEAM.xls”.

13. Agility and Alinta also had contracts in place with third parties over the sample period.⁶ However, there was insufficient information available to undertake the same comparative analysis carried out for Origin Energy – Networks. Notwithstanding this, the comparative analysis for Origin Energy – Networks clearly demonstrates that the margin generated on contracts with third parties cannot simply be presumed to result in lower margins than those embodied in contracts with ‘related’ parties. Accordingly, it cannot simply be concluded that the inclusion of contractors that undertake work for ‘related’ parties will upwardly bias the margin estimates. In fact, as the results above demonstrate the opposite may be the case.

Threshold adopted by ACG for excluding entities from the sample

14. The threshold adopted by ACG simply requires that a contractor undertake a significant proportion of its work for another party “where it can be questioned whether the contract represents an arm’s length arrangement”. In accordance with this threshold, it is sufficient simply to “question” whether a contract represents an arm’s length arrangement. In other words, one does not even need to demonstrate that a contractor has engaged in transfer pricing to exclude it from the analysis. In our opinion, this threshold has been set too low and does not take into account the complexity of the issues that would need to be assessed before one could reasonably conclude that transfer pricing had in fact occurred.
15. In our opinion such an assessment would, in the first instance, involve establishing whether or not the parties may have an incentive to engage in transfer pricing. Such an incentive may arise where:
- § the interests of the parties are sufficiently aligned at the time the contract price is negotiated, or renegotiated such that they could be considered to be operating as a single economic entity; or
 - § compensatory payments were made to sustain the artificially inflated contract price.
16. The term ‘single economic entity’ is used to describe the relationship between two or more parties whose interests are so closely aligned that they could not be expected to act independently in the decisions they make. If the parties to an outsourcing agreement can be regarded as a single economic entity, then the incentives and ability for them to engage in transfer pricing may be high. This is because their interests are sufficiently well aligned and the associated control or decision making mechanisms exist to ensure that transfer pricing can occur without requiring any compensating payments to sustain it.
17. If the parties are found to be operating as a single economic entity then an asset owner *may* have an incentive to pay an artificially inflated contract price to the contractor. However, a more detailed examination of the transaction would need to be undertaken to ascertain whether an artificially inflated contract price has actually been agreed by the parties.

⁶ Over the period Agility (later Alinta Asset Management) had contracts in place with the Australian Pipeline Trust (APT), Country Energy, Santos, Energex and TransAct..

18. If the parties are not part of a single economic entity (notwithstanding the fact that the two parties may in a legal or accounting sense be classified as ‘related’), then the incentive and ability for the asset owner to pay an artificially inflated contract price over an extended period of time will be limited by the substance of their independent, competing interests. Assuming that there are no other compensatory payments sustaining the artificially inflated contract price, then competing interests would result in the contract price being equal to that which would have been struck by parties negotiating on an arm’s length basis and thus no further consideration of this type of outsourcing arrangement would be required.
19. If the conclusion were reached that the entities were part of a single economic entity at the time the contract was negotiated or that compensatory payments were made to support an artificially inflated contract price, then consideration must then to be given to whether the incentive to pay an artificially inflated price is ongoing. While circumstances at the time the transaction was entered into may have given rise to an incentive for the outsourcing entity to pay an inflated contract price, of itself this does not ensure there are ongoing incentives for it to continue to pay an artificially inflated price for the outsourced services. Rather, where a contract provides for the price to be reviewed by reference to normal commercial considerations, it can be expected that any distortion in the contract price will be eliminated unless:
- § the parties continue to operate as a single economic entity such that the asset owner is unable to exercise effective independent control over its decision making; or
 - § a further transaction were to take place, involving additional payments or benefits to the asset owner.
20. In circumstances where it is found that an outsourcing entity may have had an incentive to pay an artificially inflated contract price then consideration must be given to whether the price has actually been distorted and continues to be distorted. This in turn requires a detailed consideration of specific circumstances surrounding the contract and requires an estimate to be undertaken of the cost that would otherwise have been incurred if the services were provided in-house having regard to:
- § the assets owned by the contractor and employed in the provision of contract services (including both tangible and intangible assets, ie, know-how);
 - § the common costs incurred by the contractor;
 - § the level of risk exposure arising from the contract; and
 - § the relative efficiency of the contractor relative to the in-house provider.
21. In our opinion, ACG has overlooked the complexities described above by simply asserting that it is sufficient to “question” whether contracts represent an arm’s length transaction. Although ACG points to a number of arrangements that appear to have been entered into by ‘related’ parties it has not provided any evidence to support the claim that these arrangements entails any form of transfer pricing. This is a significant oversight on ACG’s part and is a function of the threshold being set too low.

22. The threshold adopted by ACG also overlooks the potential for third party contracts to encompass some level of transfer pricing where compensatory payments are made to sustain the arrangement. This oversight is somewhat surprising given that the potential for this to occur has been acknowledged by Jeffrey John Balchin (Mr Balchin) in a statement prepared for the ESC.⁷ In particular in paragraph 157 of this statement, Mr Balchin expresses the view that:

‘...I would first consider whether I had sufficient confidence that the service provider had an incentive to minimise the cost of service provision to conclude presumptively that the service provider’s actual expenditure was prudent and efficient and achieved the objectives for reference tariffs. I would be cautious about adopting such a presumption in circumstances where the service provider has entered into undertaken major outsourcing arrangements, particularly where:

- a. the contract is between related parties, and hence where there may be limited incentive for the parties to agree upon the cheapest price;
- b. the parties to the contract have arrangements in place to permit them to share the benefits from the regulator setting a higher reference tariff;
- c. the outsourcing arrangement was created, at least in part, to generate benefits to the service provider or other parties that may be ignored when setting reference tariffs; and/or
- d. the mode of delivery of the outsourced functions is materially the same as would occur with in-house provision, so that if the contract price was accepted the cost of undertaking the function, then materially different reference tariffs could result merely as a result of the choice of ownership/operating structure.’

23. Items b and c in the list referred to by Mr Balchin clearly envisage that contracts between third parties may entail some level of transfer pricing where there are benefits that sustain the relationship. This implies that all entities have the ability to set up a transfer pricing regime involving an artificially inflated contract price. If the threshold adopted by ACG were extended to include this possibility, as recognised by Mr Balchin, then all the companies in the sample could be viewed as ‘questionable’ and without any further analysis would be excluded from the sample.

24. In our opinion, Alinta, Agility and Origin Energy – Networks should be retained in the sample unless it can be clearly demonstrated that they have engaged in transfer pricing. Notwithstanding this view we have, for completeness, estimated the effect of excluding these entities from our results, which is that:

§ the average margin across the sample falls to 4.8%;⁸

§ the revised 95% confidence interval for the true population mean of this sample broadens to 3.5% to 6.1% which would encompass the EBIT margin payable to OEAM excluding incentive payments (5.6%); and

⁷ Balchin, J., Statement of Jeffrey John Balchin, Gas Access Arrangement Review Outsourcing by Regulated Businesses, para 157.

⁸ This estimate has been calculated after making the relevant adjustments accepted in chapter 3.

- § the revised 99% confidence interval for the true population mean of this sample extends from 3.1% to 6.5% which would encompass the EBIT margin payable to OEAM both including (6.4%) and excluding incentive payments (5.6%).

2.2. Exclusion of revenue and profits derived through joint ventures

25. The second criticism made by ACG relates to the inclusion of revenue and profits derived through joint ventures in the EBIT margin calculations. Before examining the specific issues raised by ACG it is worthwhile setting out the basis for our decision to include joint venture interests in the original analysis.
26. In paragraphs 14 and 15 of our original report it was noted that both “Other Income” and the “Share of net profit of associates” had been removed from the EBIT and revenue calculations. Our specific concerns about the “share of net profit of associates” category stemmed from a review of the Origin Energy annual reports which demonstrated that the Origin Energy - Networks business unit had recorded its return on equity from its 33% interest in the SEA Gas pipeline as a share of net profits from associates. Since the objective of the margin study was to measure the margin directly attributable to carrying out contractor services we decided to exclude the revenue and profits attributed to associates to ensure that the margins were not distorted by equity interests in associates.
27. Although contributions from associates were excluded from our analysis the contributions made by joint ventures were included. This decision was made because a large number of outsourcing arrangements are conducted by means of joint ventures. Examples of this type of arrangement include, amongst others, the following:
- § OEAM operates and manages the water and waste-water assets of Coliban Water in Victoria through a joint venture with United Utilities;
 - § UnitedGroup Infrastructure has entered into a number of joint venture arrangements including those with:
 - Balfour Beatty to construct high power voltage lines for Powerlink; and
 - Thiess to upgrade rail infrastructure in south east Queensland for Queensland Rail.
 - § WorleyParsons has entered into a number of joint ventures including those with:
 - KBR, which has been engaged by Woodside Energy to undertake the engineering, procurement and construction management work required on the Angel gas development;
 - Transfield, which has also been engaged by Woodside Energy through an engineering and maintenance services contract; and
 - Foster Wheeler, which has been engaged to provide design and project services for the LNG V train in the North West Shelf.
 - § Downer EDI which has a number of joint venture arrangements including an arrangement with:

- Crown Castle to deliver wireless broadband installations to Unwired and mobile build projects to Optus; and
- Clough to construct port facilities.

§ SMEC has had two joint venture arrangements with:

- Maunsell Australia to construct the Western Sydney Orbital; and
- KBR to provide design services for the Western Sydney Orbital project and the Mitcham Frankston Freeway.

§ Clough has a number of joint venture arrangements in place including those with:

- Murray & Roberts to undertake the engineering, procurement, and construction management required for the construction of a gold and copper processing facility in Western Australia;
- Interbeton to construct a jetty extension to Woodside’s LNG export marine terminal in Western Australia;
- AMEC to carry out the engineering services required on all of Woodside Energy’s oil assets; and
- KBR to design and construct the Kalgoorlie Reservoir.

§ Fluor has 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
- Monadelphous to provide maintenance and shut down management of the Comalco mining site.

28. This list of examples is not exhaustive but it 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.

29. At the time of writing the original report we also understood that the SP AusNet and Tenix Alliance outsourcing arrangement (t-squared) was carried out through a joint venture arrangement. We have since learned that the SP AusNet and Tenix alliance arrangement is actually undertaken through an associate arrangement. It could therefore be argued that in some circumstances it may be relevant to incorporate the revenue and profits derived from associates, eg, where the profits do not simply relate to an equity ownership but actually reflect the profit generated through the provision of contractor services.

2.2.1. Response to ACG’s critique

30. ACG’s criticism of the inclusion of revenue and profits derived through joint ventures is based on two contentions:

- § first, ACG submits that the contribution of joint ventures should be excluded from the analysis because the margins earned may not be indicative of the margin the firm would earn when undertaking its principal activities; and
- § second, ACG notes that in most cases companies simply report the share of net profit derived from joint ventures and do not separately record the revenue derived from the joint ventures. ACG concludes that using the share of net profit in the revenue measure will overstate the company's true EBIT margin, ie, since revenue is generally higher than net profit.

Joint ventures and the relevance of the margins earned

31. Joint venture arrangements, as ACG points out, may be undertaken for a number of reasons including circumstances where:
- § the individual contractor lacks the relevant expertise required to undertake the entire project;
 - § the individual contractor lacks the scale required to undertake the entire project; or
 - § the joint venture enables multiple participants to share the risks associated with the project.
32. On the first of these forms of joint ventures, ACG contends that the margin earned by a contractor in such an arrangement may not be indicative of the margin the firm would earn when undertaking its principal activities and so the contributions made by joint ventures should be excluded. We disagree. From a contractor's perspective, there is no obvious reason why it would agree to earn a margin that is lower than that it would expect to earn if it were simply employed as an individual contractor to undertake the work in its specialist field. Similarly, from the contracting party's perspective there is no obvious reason why it would agree to pay a higher margin to a joint venture than it would pay to employ individual contractors. It follows that there is no reason to expect that the margins earned in joint ventures of this form would be any different to those earned by the individual contractor undertaking its principal activities.
33. It might be argued that a different conclusion would be reached if the joint venture was undertaken to achieve either the required scale or to share the risks across multiple participants. Specifically, it could be argued that joint ventures that are designed to spread the risk of a project across multiple participants may result in a reduction in the margin that would otherwise have been required by a contractor if it were to have undertaken the work on its own. In such circumstances the joint venture margin may be lower than that which would typically be generated by a contractor undertaking its principal activities. Similarly, the benefits of scale in a joint venture may also mean that joint venture participants would be willing to accept margins that are lower than they could achieve if they were to undertake the work on an individual basis. To the extent these possibilities were real, the inclusion of joint ventures of this form in the benchmark study would result in a downward bias in margins relative to that which would be generated if the activities were carried out by individual contractors.
34. In our opinion, there is no reasonable basis for ACG's assumption that the inclusion of margins derived from joint venture arrangements will result in an upward bias to the

results of the study. Rather, these estimates should be retained in the study to ensure that the sample is representative and reflects the spectrum of possible outcomes for those providing comparable services under contract.

Company accounts and the reporting of revenue and profits derived from joint ventures

35. In the original analysis interests in joint ventures were simply incorporated into the revenue and EBIT measures using the “share of net profit of joint ventures” that was reported in the profit and loss statements. We agree with ACG’s observation that if interests in joint ventures are to be accurately reflected in the EBIT margin measures then the revenue measure should utilise the revenue derived from the joint venture and not the share of net profit.
36. To this end we have undertaken a detailed review of the relevant annual reports and found that, eleven out of the thirteen entities that derived income from joint ventures separately reported both revenue and the share of net profits (see table below). The EBIT margins estimated for these companies have therefore been adjusted to reflect this change. Overall this adjustment has resulted in the average margin across the sample falling by 0.1%. The revisions for each of the individual entities are set out in the following chapter.

Table 2.23: Availability of revenue data for joint ventures

Entity	Revenue separately reported
United Group Infrastructure	Ü
Tenix Alliance	Ü
Downer EDI - Rail	Ü
Downer EDI - Infrastructure	Ü
Downer EDI - Engineering	Ü
SMEC	Ü
Ausenco	Ü
Clough	Ü
SKM	Ü
Fluor	Ü
KBR	Revenue estimates available from 2002-2004
Bechtel	Ü
Hatch	Ü

Conclusion

37. Although we do not agree that joint venture contributions should be excluded from the analysis we have, for completeness, estimated the effect of excluding the revenue and profit derived from such interests. These calculations indicate that if the contributions made by joint ventures were removed from our estimates then:

§ the average EBIT margin for the entire sample would fall to 4.3%;⁹

⁹ This estimate has been calculated after making the relevant adjustments accepted in chapter 3.

- § the revised 95% confidence interval for the true population mean of this sample would extend from 2.6% to 5.9%, which encompasses the EBIT margin payable to OEAM excluding incentive payments (5.6%); and
- § the revised 99% confidence interval for the true population mean of this sample would extend from 2.0% to 6.5%, which encompasses the EBIT margin payable to OEAM both including (6.4%) and excluding incentive payments (5.6%).

2.3. Exclusion of Fluor and WorleyParsons Power

38. On page 19 of its report ACG contends that the margins estimated for Fluor over the period 2002-2005 and the margin estimated for WorleyParsons's Power in 2004-05 should be excluded because they exhibited some anomalies.

2.3.1. Exclusion of Fluor's EBIT margins 2002-2005

39. According to ACG, the exclusion of Fluor is warranted because it exhibits significant volatility over the sample period. While we agree with ACG that Fluor's EBIT margins have been volatile over the sample period, the same could also be said about a number of other companies in the sample including:

- § Clough – over the sample period Clough's EBIT margin has ranged from -0.3% to -14.3%; and
- § KBR – over the sample period KBR's EBIT margin has ranged from -0.8% to 13.1%

40. The volatility in EBIT margins observed in these cases simply reflects the risk that contractors may be exposed to on a yearly basis which can be expected to reflect, amongst other things:

- § the type of contracts the contractor has entered into; and
- § the portfolio of contracts that a contractor has in place and the extent to which individual contractual risks can be diversified across the portfolio.

41. On the first of these considerations, it is clear that if a contractor has entered into a fixed price contract then it will be exposed to the risk of losing money (ie, earning negative margins) in circumstances where actual expenditure is higher than the contract payment. In cases where such contracts extend over a number of years then the potential for outturn costs to diverge from the forecast used to derive the fixed fees is heightened and so the margins generated on contracts of this form may exhibit considerable volatility over the duration of the contract. Contracts may also expose a contractor to the risk of earning negative margins, eg, where there are penalty clauses and the contractor fails to adhere to the relevant provisions in the contract (see Box 2.1).

Box 2.1 Clough contract dispute for Bassgas project

In June 2002, Clough was awarded the Engineering, Procurement and Construction (EPC) contract for work on the Bassgas project being undertaken by a Joint Venture lead by Origin Energy. The contract provided for Clough to construct an offshore platform, onshore processing facility and linking pipelines. According to Clough announcements, the fixed price contract was worth approximately \$400 million.

In late 2004, Origin announced that a bank guarantee (a bond provision related to performance under the contract) had been called in relation to delays. A number of claims resulted in the parties being locked in arbitration proceedings and Clough experienced cost overruns to complete the project. This year the second phase of arbitration proceedings was completed and Clough was found liable for the majority of the claims, of which Origin was awarded \$250 million for damages on delays and rectification work. The outstanding claims were recently settled ending the arbitration proceedings.

In November 2006 Clough's Chairman announced that it had implemented a strategic plan to move away from fixed price contracting and to increase the proportion of earnings derived from lower risk sectors of engineering and contracting.

Sources: <http://www.infolink.com.au/articles/31/0C00D131.aspx>;
<http://www.news.com.au/heraldsun/story/0,21985,21849074-664,00.html>; Clough, 2005 Annual Report
Clough Media Release, Annual General Meeting – Chairman's Address, 8 November 2006.

42. In the specific case of the volatile nature of the EBIT margins generated by Fluor over the period 2002-2005 (see table below), we understand that these were affected by Fluor's failure to meet the performance levels required in a contract with Anaconda and a write-down of an investment in a magnesium smelter.

Table 2.4: Fluor Australia EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revenue	\$250,606	\$150,941	\$94,511	\$93,025	n.a.
EBIT	\$8,302	-\$9,125	-\$13,011	-\$339	n.a.
EBIT Margin	3.3%	-6.0%^a	-13.8%^b	-0.4%	n.a.

Source: Form 388 filings with ASIC.

a. Includes the effect of a write down of a joint venture investment in a magnesium smelter.

b. Includes the effect of a settlement paid to Anaconda Nickel.

43. For the Anaconda contract, we understand that in 1997 Fluor entered into an engineering, procurement and construction contract for a fixed cost of \$1 billion. The contract contained performance guarantees (bank bonds) that were drawn down in 1999 to rectify defects and was completed, one year behind schedule, with design flaws. During the first phase of the arbitration proceedings, which occurred in 2002, Anaconda was awarded \$150 million and Fluor \$107 million (including the previously drawn guarantee). In 2004 all claims were settled prior to arbitration and Fluor paid \$155 million in relation to breakdowns and design flaws.¹⁰

¹⁰ Lucinda Schmit, "Cut-rate dispute", Business Review Weekly, 27 May 2004 (reprinted on the Institute of Arbitrators and Mediators of Australia website)

44. In 2003 Fluor's profits were negatively affected by a write-down of \$7.4 million relating to an investment in a magnesium smelter. In previous years Fluor had agreed to be compensated for consulting services with capital stock of the client. However, the project was eventually suspended due to funding and the client sought bankruptcy protection.¹¹ These events caused the EBIT margins for Fluor over 2003 and 2004 to display significant volatility in comparison to previous years (see Table 2.4).
45. These outcomes demonstrate that it should neither be assumed that contractors always earn positive margins, nor that the margins earned by contractors will exhibit stability over time.
46. Overall, in our opinion if the sample underlying this benchmark study is to be representative of the conditions faced by contractors and is to reflect the spectrum of possible outcomes, then it is important to retain companies such as Fluor in the analysis. Notwithstanding this opinion, if Fluor were removed the average margin would increase to 5.8% and the 95% and 99% confidence intervals would increase to 4.6-7.4% and 4.3-7.4% respectively.

2.3.2. Exclusion of WorleyParsons Power EBIT margin in 2004/05

47. ACG also claims that the WorleyParsons Power 2004/05 results should be excluded from the analysis because the EBIT margin excluding the share of net profits of associates (as proposed in our earlier report) in this year (35.5%) was substantially higher than the following two years (11.1%-14.4%). ACG goes on to note that if the profits and revenue generated by associates were to be included, then this revised EBIT margin (11%) would be more in line with the margins generated in subsequent years. ACG concludes that these anomalies were sufficient to warrant the exclusion of this data point.
48. We have examined the WorleyParsons Power data for 2004/05 and maintain our view that the appropriate EBIT margin measure for this year is 35.5%. This margin simply reflects the fact that the revenue generated from sales to external customers (\$1.6 m) was substantially higher than the expenses incurred in the generation of that revenue resulting in an EBIT estimate of \$560,000. ACG has not provided any reason as to why this is not a true representation of the EBIT margin generated in this year. Accordingly, we disagree with ACG's conclusion that this estimate should be excluded from the sample.
49. Although in our opinion this single EBIT margin estimate for WorleyParsons Power should be retained in the sample we have nevertheless estimated the effect of excluding these observations from our sample. If WorleyParsons Power were removed the average margin would fall to 5.2% and the 95% and 99% confidence intervals would narrow to 4.2-6.2% and 3.8-6.6% respectively.

¹¹ <http://sec.edgar-online.com/2005/03/04/0000892569-05-000093/Section9.asp>

3. Revised benchmark results

50. ACG's report sets out the adjustments it contends should be made to the EBIT estimates for individual entities to address both the sample composition related issues identified in the preceding chapter and the errors it contends have been made in the calculation of EBIT margins for a number of entities.
51. For the reasons set out in the preceding chapter we do not agree with ACG's contentions regarding the exclusion of the EBIT margins generated by Alinta Asset Management, Agility, Origin Energy – Networks, Fluor and WorleyParsons Power. Nor do we agree that the revenue and profits derived through joint venture arrangements should be excluded. That said, we do acknowledge that a number of small errors were inadvertently made when calculating the EBIT margins for individual entities. A detailed review of the calculation related errors cited by ACG and our response to each of these claimed errors is set out in Appendix A. Where relevant this appendix also sets out the revised EBIT margins. Table 3.1 and Table 3.2 provide a summary of the revisions made to each of the individual entities and to the overall results of the study.
52. Examining these tables it is immediately apparent that the errors cited by ACG were not made systematically across the sample and that they have not had a material effect on our original estimates. Specifically:
- § the average EBIT margin estimated for the entire sample has fallen by just over 0.18% to 5.5%; and
 - § the two-tailed 95% confidence interval for the true population mean across the entire sample extends from 4.3% to 6.7% rather than the 4.5% to 6.9% previously estimated.
53. Although the sample mean and the associated upper bound of the confidence interval have decreased, the average EBIT margin paid under the Envestra-OEAM contract, both including payments (6.4%) and excluding incentive payments (5.6%) remains within the range established by the entire sample. Accordingly, the view reached in the original report regarding the consistency of the margin paid under the OMA with accepted and good industry practice is still valid.

Table 3.1: Revised EBIT Margins compared to original estimates (Average 2002-2006)

		Company	Business Segment	Original results average 2002-06	Revised results average 2002-06	Difference
All Infrastructure Sample Set	Distribution Infrastructure Sub Set	AGL	Agility	13.1%	13.1%	0.0%
		Alinta	Asset Management	10.4%	10.8%	0.4%
		Origin Energy	Networks	6.1%	6.1%	-
		Tenix Alliance		0.9%	0.9%	0.0%
		United Group	Infrastructure	6.6%	5.9%	-0.7%
		Downer EDI	Infrastructure	5.2%	5.1%	-0.1%
		WorleyParsons	Power	13.2%	13.2%	0.0%
			Infrastructure	8.1%	8.1%	-
		Transfield Services	Services	1.3%	1.3%	0.0%
		United Group	Rail	5.6%	5.6%	-
			Resources	5.7%	5.7%	-
		Downer EDI	Rail	6.1%	5.9%	-0.2%
			Engineering	3.2%	3.2%	-
		Thomas & Coffey		1.0%	1.0%	-
		WorleyParsons	Minerals and Metals	14.5%	14.5%	-
			Hydrocarbons	8.6%	8.6%	-
		Clough		-2.8%	-3.1%	-0.3%
		Sinclair Knight Merz		9.7%	10.7%	1.0%
		KBR Holdings		5.6%	4.5%	-1.1%
		Fluor Australia		-1.5%	-1.6%	-0.1%
		SMEC Holdings		5.1%	5.0%	-0.1%
		Bechtel Australia		-0.9%	-1.5%	-0.7%
	Hatch Associates		9.7%	9.4%	-0.3%	
	Ausenco		10.3%	8.8%	-1.6%	
	Lend Lease Corporation	P. Mgt and Construction	1.9%	1.9%	-	
<i>Distribution Infrastructure Sub Set</i>						
Mean				8.2%	8.2%	0.04%
<i>All Infrastructure Sample Set</i>						
Mean				5.7%	5.5%	-0.18%
95% confidence interval for the true population mean				4.5% to 6.9%	4.3% to 6.7%	-0.15% -0.17%
99% confidence interval for the true population mean				4.1% to 7.2%	3.9% to 7.1%	-0.15% -0.18%

Table 3.2: Revised Economic EBIT Margins 2002-2006

		Company	Business Segment	2002	2003	2004	2005	2006
All Infrastructure Sample Set	Distribution Infrastructure Sub Set	AGL	Agility	11.3%	12.7%	13.0%	14.3%	13.6%
		Alinta	Asset Management	0.0%	0.0%	12.3%	13.0%	8.5%
		Origin Energy	Networks	6.3%	4.8%	3.6%	7.7%	8.0%
		Tenix Alliance		-0.2%	2.9%	0.9%	-1.1%	1.9%
		United Group	Infrastructure	0.0%	0.0%	0.0%	4.9%	6.3%
		Downer EDI	Infrastructure	3.5%	4.4%	5.6%	5.5%	5.7%
		WorleyParsons	Power	0.0%	0.0%	35.5%	11.1%	14.4%
			Infrastructure	0.0%	0.0%	6.5%	11.4%	6.8%
	Transfield Services	Services	2.2%	1.5%	1.5%	1.4%	0.6%	
	United Group	Rail	0.0%	0.0%	0.0%	6.2%	5.2%	
		Resources	0.0%	0.0%	0.0%	4.7%	6.4%	
	Downer EDI	Rail	3.9%	6.1%	4.2%	6.4%	9.3%	
		Engineering	3.9%	3.4%	4.8%	4.3%	0.7%	
	Thomas & Coffey		-4.0%	1.3%	0.4%	2.1%	2.8%	
	WorleyParsons	Minerals and Metals	0.0%	0.0%	15.7%	14.2%	14.1%	
		Hydrocarbons	0.0%	0.0%	11.8%	8.3%	8.3%	
	Clough		0.0%	-0.3%	-1.0%	-10.8%	-2.8%	
	Sinclair Knight Merz		5.7%	6.4%	9.6%	12.7%	14.1%	
	KBR Holdings		3.7%	8.6%	-0.7%	3.7%	6.8%	
	Fluor Australia		2.8%	-4.6%	-8.0%	-0.2%	0.0%	
	SMEC Holdings		4.6%	5.0%	3.1%	4.6%	7.2%	
	Bechtel Australia		0.6%	-2.2%	-1.8%	-2.7%	0.0%	
	Hatch Associates		2.9%	5.3%	10.8%	13.5%	9.6%	
Ausenco		0.0%	3.7%	8.9%	8.7%	9.7%		
Lend Lease	P. Mgt and Construction	0.0%	0.0%	1.7%	2.2%	1.8%		
Distribution Infrastructure Sub Set - Mean								8.2%
All Infrastructure Sample Set - Mean								5.5%

Appendix A. Response to calculation related issues raised by ACG

54. Page 18 of ACG's report provides a summary of the calculation errors it contends have been made and Appendix A sets out the adjustments it submits should be made to address these errors.
55. We have undertaken a detailed review of the specific errors cited by ACG but before moving on to set out our response to each of these specific issues it is worth noting that the errors cited by ACG were not made systematically across the entire sample. It is also worth noting that in a number of cases the adjustments made in the spreadsheet underlying ACG's adjusted margins differed from the adjustments stated in Appendix A of its report, and so we have sought to reconcile the differences between the two. In carrying out this reconciliation we have found a number of isolated errors in the spreadsheet underlying ACG's estimated EBIT margins for Bechtel, Sinclair Knight Merz and Ausenco that appear in Appendix A. These errors are set out in our discussion of these three entities below.
56. The remainder of this appendix examines the calculation related issues raised by ACG in both its report and the spreadsheet underlying its adjusted estimates for each entity included in the sample.

A.1. Agility Management Pty Ltd

57. We agree with ACG's observation that the 2005 EBIT data was revised in the 2006 annual report and the table below has been amended on this basis. Incorporating this adjustment results in a reduction in the EBIT margin of 0.1% (14.4% to 14.3%) in 2005.

Table A.1: Agility EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$356,000	\$376,300	\$400,900	\$426,800	\$516,800
EBIT	\$40,200	\$47,800	\$52,100	\$61,200	\$70,200
Revised EBIT Margin	11.3%	12.7%	13.0%	14.3%	13.6%
Original Margin Estimate	11.3%	12.7%	13.0%	14.4%	13.6%
<i>Difference</i>	-	-	-	-0.1%	-

Source: AGL Annual Reports.

A.2. Alinta Asset Management Pty Ltd

58. We also acknowledge that our margin estimates used the 2004 revenue data from Alinta's 2004 annual report rather than the revised estimates contained in the 2005 annual report. The table below has been amended on this basis. Incorporating this adjustment results in an increase in the EBIT margin of 1.6% (10.7% to 12.3%) in 2004.
59. On page 32 of its report ACG notes that, notwithstanding the fact that the Alinta Asset Management business unit wasn't formed until July 2003, there was data available to estimate the EBIT margin for 2003. We agree that Alinta's 2004 annual report contains financial performance data for 2003. However, this data represents the results of less than

a half a year in operation ie, from 24 July 2003 to 31 December 2003.¹² Given the partial nature of this data, in our view it is more appropriate to use the first full year of data for the year ending 31 December 2004. It is worth noting that if the 5.5% were to be added to the sample the overall average for the Distribution Infrastructure Sub Set would fall by just 0.1% and by 0.002% for the All Infrastructure Sample Set.

Table A.2: Alinta Asset Management EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	n.a.	n.a.	\$337,159	\$461,708	\$667,213
EBIT	n.a.	n.a.	\$41,495	\$59,950	\$56,850
Revised EBIT Margin	n.a.	n.a.	12.3%	13.0%	8.5%^a
Original Margin Estimate	n.a.	n.a.	10.7%	13.0%	8.5%^a
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	<i>1.6%</i>	<i>-</i>	<i>-</i>

Source: Alinta Annual Reports.

a. According to Alinta's 2006 annual report this margin was affected by the integration of Agility within the Asset Management business segment which resulted in one off integration costs of \$24.7 million (pre tax).

A.3. Origin Energy – Networks

60. ACG has not raised any issues in relation to the estimation of the Origin Energy - Networks EBIT margin and so the table below remains unchanged from our earlier report.

Table A.3: Origin Energy - Networks EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$125,382	\$149,270	\$168,098	\$158,742	\$171,745
EBIT	\$7,855	\$7,142	\$5,976	\$12,238	\$13,817
Revised EBIT Margin	6.3%	4.8%	3.6%	7.7%	8.0%
Original Margin Estimate	6.3%	4.8%	3.6%	7.7%	8.0%
<i>Difference</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

Source: Origin Energy Annual Reports.

A.4. Tenix Alliance Pty Ltd

61. The only issue raised by ACG in relation to Tenix Alliance stemmed from the inclusion of joint venture interests. As noted in section 2.2 we do not agree with the view that joint venture interests should be excluded. However, we have adjusted the revenue measure to reflect that derived from joint ventures rather than the share of net profits of joint ventures. This data was obtained from notes 23 and 24 of Tenix Alliance's Form 388 filings. The relevant adjustments are set out in the following table.

¹² Alinta's annual reports are prepared on a calendar year basis.

Table A.4: Tenix Alliance EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$211,739	\$194,456	\$220,568	\$261,720	\$387,557
EBIT	-\$488	\$5,735	\$1,885	-\$2,921	\$7,260
Revised EBIT Margin	-0.2%	2.9%	0.9%	-1.1%	1.9%
Original Margin Estimate	-0.2%	3.2%	1.0%	-1.1%	1.9%
<i>Difference</i>	-	-0.3%	-0.1%	-	-

Source: Form 388 filings with ASIC.

A.5. United Group Limited

62. Once again the only issue raised by ACG in relation to United Group stemmed from the inclusion of joint venture interests in the Infrastructure segment results. For the reasons set out in section 2.2 we do not agree that these interests should be excluded from the analysis. Although we do acknowledge that the revenue measure should be adjusted to reflect the revenue derived from joint ventures rather than the share of net profits of joint ventures. United Group's revenue from joint ventures was set out in note 33 of its annual reports. The revenue and expenses reported in this note relate to the joint venture revenue derived from both the Infrastructure and Services segments, and so it was necessary to apportion this between the two. This was done using weights that were calculated by reference to the net profit of joint ventures for each of these segments. The relevant adjustments are set out in the following table. As indicated in our earlier report the Services business segment of United Group provides essentially non-infrastructure based services and so this business unit has been excluded from the benchmark study.

Table A.5: United Group EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates - Rail					
Revenue	n.a.	n.a.	n.a.	\$534,898	\$960,424
EBIT	n.a.	n.a.	n.a.	\$33,157	\$50,251
Revised EBIT Margin	n.a.	n.a.	n.a.	6.2%	5.2%
Original Margin Estimate	n.a.	n.a.	n.a.	6.2%	5.2%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	-	-
Revised estimates - Infrastructure					
Revenue	n.a.	n.a.	n.a.	\$286,879	\$577,994
EBIT	n.a.	n.a.	n.a.	\$14,136	\$36,641
Revised EBIT Margin	n.a.	n.a.	n.a.	4.9%	6.3%
Original Margin Estimate	n.a.	n.a.	n.a.	6.1%	6.8%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	-1.2%	-0.5%
Revised estimates - Resources					
Revenue	n.a.	n.a.	n.a.	\$315,216	\$479,598
EBIT	n.a.	n.a.	n.a.	\$14,838	\$30,515
Revised EBIT Margin	n.a.	n.a.	n.a.	4.7%	6.4%
Original Margin Estimate	n.a.	n.a.	n.a.	4.7%	6.4%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	-	-

Source: United Group Annual Reports.

A.6. WorleyParsons Limited

63. On page 34 ACG claims that the net profits from associates were removed from both the calculation of revenue and EBIT in 2003/04 for the Power and Hydrocarbons business units. We have undertaken a more detailed reviewed of the 2004/05 annual report and, based on a table appearing on page 40 of this report, it appears that the EBIT measure reported by WorleyParsons does include the net profit of associates. Since our EBIT estimate was taken directly from the WorleyParsons report it was appropriate to deduct the profit attributable to associates from this reported EBIT measure to ensure that our EBIT margin calculation was not distorted by the effect of equity interests in associates. Revenue for this year was also measured before taking into account the net profit of associates.

64. During our review of the WorleyParsons Power 2004/05 estimate we uncovered an error in the EBIT measure, which should have been \$560,000 rather than \$530,000. This has been altered in the table below.

Table A.6: WorleyParsons EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates - Power					
Revenue	n.a.	n.a.	\$1,577	\$191,420	\$320,518
EBIT	n.a.	n.a.	\$560 ^a	\$21,213	\$46,080
Revised EBIT Margin	n.a.	n.a.	35.5%	11.1%	14.4%
Original Margin Estimate	n.a.	n.a.	33.6%	11.1%	14.4%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	<i>1.9%</i>	-	-
Revised estimates - Infrastructure					
Revenue	n.a.	n.a.	\$37,852	\$59,185	\$108,888
EBIT	n.a.	n.a.	\$2,445	\$6,750	\$7,422
Revised EBIT Margin	n.a.	n.a.	6.5%	11.4%	6.8%
Original Margin Estimate	n.a.	n.a.	6.5%	11.4%	6.8%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	-	-	-
Revised estimates - Minerals and Metals					
Revenue	n.a.	n.a.	\$95,364	\$159,819	\$186,042
EBIT	n.a.	n.a.	\$14,949	\$22,664	\$26,221
Revised EBIT Margin	n.a.	n.a.	15.7%	14.2%	14.1%
Original Margin Estimate	n.a.	n.a.	15.7%	14.2%	14.1%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	-	-	-
Revised estimates - Hydrocarbons					
Revenue	n.a.	n.a.	\$244,169	\$841,935	\$1,796,853
EBIT	n.a.	n.a.	\$28,821	\$69,640	\$149,048
Revised EBIT Margin	n.a.	n.a.	11.8%	8.3%	8.3%
Original Margin Estimate	n.a.	n.a.	11.8%	8.3%	8.3%
<i>Difference</i>	<i>n.a.</i>	<i>n.a.</i>	-	-	-

Source: Worley Parsons Annual Reports

A.7. Transfield Services Limited

65. On page 34 ACG correctly observes that we had used the 2004/05 annual report for the 2004/05 EBIT data rather than the 2005/06 annual report. Incorporating this adjustment results in an increase in the EBIT margin of 0.2% (1.2% to 1.4%) in 2005/06.

Table A.7: Transfield Services – Services EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$756,664	\$958,043	\$1,172,135	\$1,436,265	\$1,782,696
EBIT	\$16,527	\$14,432	\$17,598	\$19,505	\$10,489
Revised EBIT Margin	2.2%	1.5%	1.5%	1.4%	0.6%
Original Margin Estimate	2.2%	1.5%	1.5%	1.2%	0.6%
<i>Difference</i>	-	-	-	<i>0.2%</i>	-

Source: Transfield Services Annual Reports

A.8. Downer EDI Limited

66. We agree with ACG's observation on page 35 that inter-segment sales data was inadvertently excluded from the 2001/02 revenue estimates and as a result we overestimated the EBIT margin by up to 0.5% for the Rail business segment. In the case of both the Infrastructure and Engineering business segments the changes were relatively minor and so the EBIT margins for these business segments have not changed materially.

67. ACG also contends that joint venture interests should be excluded from the results. For the reasons set out in section 2.2 we do not agree that these interests should be excluded from the analysis. However, we acknowledge that the revenue measure should be adjusted to reflect that derived from joint ventures rather than the share of net profits of joint ventures. Downer EDI's revenue from joint ventures was set out in notes 40-42 of its annual reports.

68. The EBIT margins in the table below have been altered to reflect the two changes identified above.

Table A.8: Downer EDI EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates - Rail					
Revenue	\$362,329	\$333,509	\$409,911	\$360,918	\$348,904
EBIT	\$13,989	\$20,417	\$17,342	\$23,258	\$32,389
Revised EBIT Margin	3.9%	6.1%	4.2%	6.4%	9.3%
Original Margin Estimate	4.4%	6.1%	4.2%	6.5%	9.3%
Difference	-0.6%	-	-	-0.1	-
Revised estimates - Infrastructure					
Revenue	\$425,470	\$576,537	\$683,980	\$893,571	\$1,078,510
EBIT	\$14,750	\$25,349	\$38,167	\$49,576	\$61,610
Revised EBIT Margin	3.5%	4.4%	5.6%	5.5%	5.7%
Original Margin Estimate	3.5%	4.4%	5.6%	5.6%	5.7%
Difference	-	-	-	-0.1%	-
Revised estimates - Engineering					
Revenue	\$741,152	\$869,470	\$1,170,472	\$1,289,894	\$1,649,249
EBIT	\$28,608	\$29,667	\$56,234	\$54,827	\$11,625
Revised EBIT Margin	3.9%	3.4%	4.8%	4.3%	0.7%
Original Margin Estimate	3.9%	3.4%	4.9%	4.2%	0.7% ^a
Difference	-	-	-0.1%	+0.1%	-

Source: Downer EDI Annual Reports

a. In 2006 Downer EDI wrote down losses associated with construction contracts in the Engineering and Mining and Resources business segments this resulted in lower than average EBIT margins in this year.

A.9. Thomas & Coffey Ltd

69. On page 36 ACG submits that our treatment of the sale of a fixed asset was inconsistent between 2004/05 and 2005/06. In 2004/05 the sale of fixed assets resulted in a loss of \$7,000, which we treated as an expense item, while in 2005/06 the sale of fixed assets resulted in a gain of \$9,000, which we treated as “other income”. Since other income is removed from our EBIT analysis we have reclassified the loss on the sale of fixed assets in 2004/05 as “other income” and in so doing have effectively removed both sales from our EBIT margin analysis. It is worth noting in this context that the amount in question is so small that it has had no effect on the 2004/05 EBIT margin estimate.

Table A.9: Thomas & Coffey EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$92,086	\$117,776	\$174,588	\$160,785	\$179,077
EBIT	-\$3,699	\$1,499	\$625	\$3,429	\$5,081
Revised EBIT Margin	-4.0%	1.3%	0.4%	2.1%	2.8%
Original Margin Estimate	-4.0%	1.3%	0.4%	2.1%	2.8%
Difference	-	-	-	-	-

Source: Thomas & Coffey Annual Reports.

A.10. Clough Ltd

70. ACG correctly observes at page 37 that we inadvertently included “Other income” in the net share of sales revenue in the joint venture line item for the financial years 2004/05 and 2005/06. This error has been rectified in the table below.

71. Clough also derived income from joint ventures. However, our earlier analysis utilised the share of net profit of joint ventures in the calculation of revenue rather than the revenue derived from joint ventures. The revenue generated from joint ventures was set out in supplementary information contained in Clough’s annual reports. The table below has been adjusted to reflect this change.

Table A.10: Clough EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	n.a.	\$1,063,555	\$803,411	\$625,213	\$912,951
EBIT	n.a.	-\$2,700	-\$8,398	-\$67,806	-\$25,960
Revised EBIT Margin	n.a.	-0.3%	-1.0%	-10.8%	-2.8%
Original Margin Estimate	n.a.	-0.3%	-1.2%	-11.4%	-2.0%
<i>Difference</i>	n.a.	-	0.2%	0.6%	-0.8%

Source: Clough Annual Reports.

A.11. Sinclair Knight Merz Holdings Ltd

72. On page 37 ACG observes that the revenue measures we used in 2001/02 to 2003/04 were net of project expenses while measures for 2004/05 to 2005/06 had not deducted project expenses. We have reviewed the earlier annual reports and agree with ACG’s observation. It would appear that in 2004/05 there was a change in accounting policies such that project expenses were measured separately rather than being combined with revenue. Since the project expenses for 2001/02 to 2003/04 were not reported the 2004/05 to 2005/06 revenue measures were adjusted so that they were expressed on a net of project expenses basis.

73. As with Clough, Sinclair Knight Merz also derived income from joint ventures which was incorporated into our original analysis using the share of net profit of joint ventures rather than the revenue derived from joint ventures. The revenue generated from joint ventures was set out in note 14 of the 2006 Form 388 filing. The table below has been adjusted to reflect this change.

74. We have also reviewed ACG’s calculations and it appears that ACG’s 2003/04 expense estimates inadvertently use the 2003/04 annual report rather than the 2004/05 annual report. There is therefore an error in ACG’s table appearing on page 37 of its report.

Table A.11: Sinclair Knight Merz Holdings EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$269,574	\$301,198	\$329,655	\$461,219	\$609,185
EBIT	\$15,290	\$19,404	\$31,635	\$58,751	\$85,966
Revised EBIT Margin	5.7%	6.4%	9.6%	12.7%	14.1%
Original Margin Estimate	5.7%	6.4%	9.6%	10.5%	12.1%
<i>Difference</i>	-	-	-	2.2%	2.0%

Source: Form 388 filings with ASIC.

A.12. KBR Holdings Ltd (Australia)

75. Following the finalisation of our benchmarking report KBR released its 2005/06 annual report. This data was used by ACG to update our sample for both 2004/05 and 2005/06. We have obtained the latest report and the table below sets out the revisions for 2004/05 and the additional data point for 2005/06. The table below has also been adjusted to ensure that the revenue measure utilises that derived from joint ventures rather than the share of net profits from joint ventures. This data was only available for 2002-2004 (see note 31 of KBR's Form 388 filings) and so the interests in 2005-2006 have been removed from the analysis.

Table A.12: KBR Holdings EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$602,333	\$413,262	\$333,640	\$221,083	\$279,997
EBIT	\$22,192	\$35,685	-\$2,317	\$8,153	\$19,160
Revised EBIT Margin	3.7%	8.6%	-0.7%	3.7%	6.8%
Original Margin Estimate	6.3%	13.1%	-0.8%	4.5%	n.a.
<i>Difference</i>	-2.6%	-4.5%	0.1%	-0.8%	n.a.

Source: Form 388 filings with ASIC.

A.13. Fluor Australia Pty Ltd

76. On page 38 of its report ACG points out that Fluor Australia has recently released an annual report for 2004/05. We have used this data to update the 2003/04 and 2004/05 estimates that appeared in the earlier report. The table below has also been adjusted to ensure that the revenue measure utilises that derived from joint ventures rather than the share of net profits from joint ventures. This data was obtained from note 10 of Fluor's Form 388 filing.

77. ACG's EBIT margin estimates contained in its underlying spreadsheet also indicate that our expense estimates included foreign exchange losses. These foreign exchange losses were originally classified in Fluor's profit and loss statement as "other expenses from ordinary activities". However, a note in Fluor's Form 388 filing indicates that a portion of these expense items relate to foreign exchange losses. We concur with ACG that these items may be viewed as financing related costs and should therefore be removed from the EBIT estimates. These adjustments result in a reduction in the EBIT margin in each year.

78. ACG's EBIT margin also excludes the unrealised losses associated with the market value of Fluor's investment in joint ventures. Since our estimates include the revenue and

profits derived from Fluor’s joint venture interests we have incorporated these losses into the analysis.

Table A.13: Fluor Australia EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$250,606	\$150,941	\$94,511	\$93,025	n.a.
EBIT	\$8,302	-\$9,125	-\$13,011	-\$339	n.a.
Revised EBIT Margin	3.3%	-6.0%^a	-13.8%^b	-0.4%	n.a.
Original Margin Estimate	4.4%	-6.1%^a	-10.0%^b	n.a.	n.a.
Difference	-1.1%	0.1%	-3.8%	n.a.	n.a.

Source: Form 388 filings with ASIC.

a. Includes the effect of a write down of a joint venture investment in a magnesium smelter.

b. Includes the effect of a settlement paid to Anaconda Nickel.

A.14. SMEC Holdings Limited

79. The only issue raised by ACG in relation to SMEC stemmed from the inclusion of joint venture interests. As noted in section 2.2 we do not agree with the view that joint venture interests should be excluded. Nevertheless, we have adjusted the revenue measure to reflect that derived from joint ventures rather than the share of net profits of joint ventures. This data was obtained from notes 31 and 25 of SMEC Holding’s Form 388 filings. The relevant adjustments are set out in the following table.

Table A.14: SMEC EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$122,296	\$122,862	\$106,855	\$112,037	\$141,652
EBIT	\$5,577	\$6,091	\$3,346	\$5,137	\$10,214
Revised EBIT Margin	4.6%	5.0%	3.1%	4.6%	7.2%^a
Original Margin Estimate	4.6%	5.1%	3.3%	4.7%	7.3%^a
Difference	-	-0.1%	-0.2%	-0.1%	-0.1%

Source: Form 388 filings with ASIC.

a. In 2006 SMEC received a bonus for the early completion of the Westlink M7.

A.15. Bechtel Australia Pty Ltd

80. In its review of our Bechtel Australia calculations ACG found that we had included both rental and interest income in revenue and EBIT estimates rather than classifying them as “Other Income” and excluding them from the analysis. The revenue measure used in our earlier report was taken from the profit and loss statement which states that the revenue being derived from “ordinary activities”. We agree that on closer inspection the notes underlying this statement demonstrate that the items pertaining to rental income, interest income and the sale of non-current assets that were classified in the accounts as relating to “ordinary activities” should actually be classified as “Other income” and therefore excluded from the analysis. Our calculation of expense items also included foreign exchange losses, which we agree should be viewed as a financing cost and therefore excluded from the analysis.

81. We also agree that the depreciation and amortisation estimate for 2004 was not revised to reflect changes in the 2005 annual report.
82. Bechtel also generated income from joint venture interests. However, its Form 388 filings did not contain a separate measure of the revenue derived from these interests. It was not therefore possible to estimate the EBIT margin including joint venture interests and so our earlier estimate which contained the share of net profits of joint ventures has been amended to exclude joint venture interests.
83. These four changes have been incorporated in the calculations set out in the table below.
84. We have also reviewed ACG's calculations for Bechtel and found that:
- § ACG's estimate of expenses for 2002/03 included the sale of non-current assets as a negative expense item. It is unclear why this change was made since the sale represents a positive source of income and Bechtel's accounts classify this as a source of other income in Note 2 of its accounts. Our calculations have classified this sale and all other sales of this form for Bechtel as a source of "other income" and in so doing the sale has been removed from the EBIT margin analysis; and
 - § ACG's estimate of expenses for 2003/04 was based on the 2003/04 annual report rather than the 2004/05 annual report.

Table A.15: Bechtel Australia EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$618,398	\$809,989	\$691,121	\$535,581	n.a.
EBIT	\$3,751	-\$17,680	-\$12,635	-\$14,321	n.a.
Revised EBIT Margin	0.6%	-2.2%	-1.8%	-2.7%	n.a.
Original Margin Estimate	1.7%	-4.0%	-0.2%	0.0%	n.a.
Difference	-1.1%	1.8%	-1.6%	-2.7%	n.a.

Source: Form 388 filings with ASIC.

A.16. Hatch Associates Pty Ltd

85. The only issue raised by ACG in relation to Hatch stemmed from the inclusion of joint venture interests. As noted in section 2.2 we do not agree with the view that joint venture interests should be excluded. However, we do agree that where the revenue from those joint ventures cannot be established then the income derived from these joint ventures should be excluded. While Hatch generated income from joint venture interests, its annual reports did not contain a separate measure of the revenue derived from these interests. Accordingly, these interests have been removed from the analysis.

Table A.16: Hatch Associates EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	\$171,935	\$187,985	\$255,613	\$350,355	\$358,572
EBIT	\$5,026	\$10,009	\$27,654	\$47,423	\$34,344
Revised EBIT Margin	2.9%	5.3%	10.8%	13.5%	9.6%
Original Margin Estimate	2.9%	5.5%	11.1%	13.9%	10.0%
<i>Difference</i>	-	-0.2%	-0.3%	-0.4%	-0.4%

Source: Form 388 filings with ASIC.

A.17. Ausenco Limited

86. The only issue raised by ACG in relation to Ausenco stemmed from the inclusion of joint venture interests. For the reasons set out in section 2.2 we do not agree that these interests should be excluded from the analysis. However, we do acknowledge that the revenue measure should be adjusted to reflect the revenue derived from joint ventures rather than the share of net profits of joint ventures. Ausenco's revenue from joint ventures was set out in notes 28-29 of its annual reports.

87. Our examination of ACG's underlying spreadsheet also indicates that ACG's EBIT estimates include "Other Income" which appears to be an error.

Table A.17: Ausenco EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
Revenue	n.a.	\$34,567	\$78,392	\$83,216	\$181,027
EBIT	n.a.	\$1,278	\$6,966	\$7,252	\$17,544
Revised EBIT Margin	n.a.	3.7%	8.9%	8.7%	9.7%
Original Margin Estimate	n.a.	4.7%	10.0%	9.2%	12.2%
<i>Difference</i>	<i>n.a.</i>	<i>-1.0%</i>	<i>-1.1%</i>	<i>-0.5%</i>	<i>-2.5%</i>

Source: Ausenco Annual Reports.

A.18. Lend Lease Corporation Limited

88. ACG notes that it was unable to verify the data used by us in relation to the "Other Income" and "Depreciation and Amortisation" allowances. These data were obtained from Note 2 in the Lend Lease Annual Reports. The table below remains unchanged from our earlier report.

Table A.18: Lend Lease EBIT Margin (\$000)

	2002	2003	2004	2005	2006
Revised estimates					
<i>Project Management, Construction and Private Finance</i>					
Revenue	n.a.	n.a.	\$7,691,900	\$8,183,800	\$9,572,200
EBIT	n.a.	n.a.	\$130,300	\$178,800	\$171,300
Revised EBIT Margin	n.a.	n.a.	1.7%	2.2%	1.8%
Original Margin Estimate	n.a.	n.a.	1.7%	2.2%	1.8%
<i>Difference</i>	-	-	-	-	-

Source: Lend Lease Annual Reports.

Appendix B. Curriculum Vitae

Gregory Houston

Director

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Overview

Gregory Houston has twenty years experience in the economic analysis of markets and the provision of expert advice in litigation, business strategy, and policy contexts. His career as a consulting economist was preceded by periods working in a financial institution and for government.

Greg Houston has directed a wide range of competition, regulatory economics and valuation-related assignments since joining NERA in 1989. His work in the Asia Pacific region principally revolves around the activities of the Australian Competition and Consumer Commission, the New Zealand Commerce Commission and other competition and regulatory agencies, many of whom also number amongst his clients. Greg has advised clients on merger clearance processes, on access to bottleneck facilities, and enforcement proceedings involving allegations of predatory pricing, anti-competitive bundling and price fixing. His industry experience spans the aviation, building products, electricity and gas, grains, payments networks, petroleum, ports, rail transport, retailing, scrap metal and telecommunications sectors. Greg Houston has acted as expert witness in antitrust, regulatory and valuation-related proceedings before the courts, in various arbitration and mediation processes, and before regulatory and judicial bodies in Australia, Fiji, New Zealand, the Philippines, Singapore and the United Kingdom.

In December 2005, Greg was appointed by the Hon Ian Macfarlane, Minister for Industry, Tourism and Resources, to an Expert Panel to advise the Ministerial Council on Energy on achieving harmonisation of the approach to regulation of electricity and gas transmission and distribution infrastructure in Australia.

Greg is member of the United States board of directors of National Economic Research Associates Inc. and head of NERA's Australian operations, which he founded after transferring from London in 1998.

Qualifications

1982 **UNIVERSITY OF CANTERBURY, NEW ZEALAND**
B.Sc.(First Class Honours) in Economics

Prizes and Scholarships

1980 University Junior Scholarship, New Zealand

Career Details

1987-89 **HAMBROS BANK, TREASURY AND CAPITAL MARKETS**
Financial Economist, London

1983-86 **THE TREASURY, FINANCE SECTOR POLICY**
Investigating Officer, Wellington

Project Experience

Competition Policy and Mergers

2007 **Meerkin & Apel/SteriCorp**
Damages assessment
Expert report in the context of an international arbitration on commercial damages arising through alleged non-performance of medical waste processing plant.

2007 **Australian Energy Market Commission, Australia**
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

2006-07 **Middletons/Confidential Client**
Damages assessment
Retained to provide an expert report on forecast demand and supply conditions and prices for gas, LPG, ethane and crude oil prices and over a ten year period.

- 2006-07** **Essential Services Commission of South Australia**
Competition assessment
 Analysis of the effectiveness of competition in electricity and gas retail markets in South Australia.
- 2006-07** **Allens Arthur Robinson/Confidential Client**
Merger clearance
 Retained to advise in relation to a proposed merger in the board packaging industry.
- 2006-07** **Johnson Winter & Slattery/Confidential Client**
Damages assessment
 Assistance in the assessment of damages arising from alleged cartel conduct.
- 2006** **Minter Ellison/Confidential Client**
Misuse of market power
 Expert economic advice in relation to an alleged breach of section 46 in the telecommunications industry.
- 2006** **DLA Phillips Fox/Donhad**
Merger clearance
 Retained for advice on competition effects of proposed Smorgon/One Steel merger.
- 2006** **Johnson Winter & Slattery/Qantas Airways**
Competition effects of price fixing agreement
 Assessed the competition effects of proposed trans-Tasman networks agreement between Air New Zealand and Qantas Airways.
- 2006** **Phillips Fox/ACCC**
Vertical foreclosure
 Retained by the ACCC as economic expert in the context of proceedings before the Federal Court concerning the acquisition of Patrick Corporation by Toll Holdings. The proceedings were subsequently withdrawn following a S87B undertaking made by Toll.
- 2006** **Gilbert + Tobin/AWB**
Access to bottleneck facilities
 Expert report and testimony in a private arbitration concerning the imposition of throughput fees for grain received at port in South Australia.

- 2006** **Qantas Airways, Australia/Singapore**
Assessment of Single Economic Entity
 Advice to Qantas in relation to its Application for Decision to the Competition Commission of Singapore that the agreement between Qantas and Orangestar does not fall within the ambit of the price-fixing and market sharing provisions of the Singapore Competition Act.
- 2005-06** **Qantas Airways, Australia/Singapore**
Competition effects of price fixing agreement
 Expert report submitted to the Competition Commission of Singapore evaluating the net economic benefits of a price fixing/market sharing agreement, in relation to an application for exemption from the section 34 prohibition in the Competition Act of Singapore.
- 2005-06** **Phillips Fox/Fortescue Metals Group, Western Australia**
Access to bottleneck facilities
 Expert report and testimony in the Federal Court proceedings concerning access to the Mt Newman and Goldsworthy rail lines, serving iron ore export markets in the Pilbara.
- 2005-06** **Australian Competition Consumer Commission**
Electricity generation market competition
 Advice on the competition effects under S50 of the Trade Practices Act of three separate proposed transactions involving the merger of generation plant operating in the national electricity market.
- 2005** **Gilbert + Tobin/Hong Kong Government, Hong Kong**
Petrol market competition
 Director of a NERA team working with Gilbert + Tobin that investigated the extent of competition in the auto-fuel retailing market in Hong Kong.
- 2005** **Phillips Fox/National Competition Council, Western Australia**
Access and competition in gas production and retail markets
 Retained as expert witness in the appeal before the WA Gas Review Board of the decision to revoke coverage under the gas code of the Goldfields pipeline. Proceedings brought by the pipeline operator were subsequently withdrawn.
- 2004-05** **Gilbert + Tobin/APCA, Australia**
Competition and access to Eftpos system
 Retained as economic advisor to the Australian Payments Clearing Association in connection with the development of an access regime for the debit card/Eftpos system, so as to address a range of competition concerns expressed by the Reserve Bank of Australia and

the ACCC. This involved the provision of an expert report examining barriers to entry to Eftpos and the extent to which these can be overcome by an access regime.

- 2003-05 Phillips Fox/Confidential Client, New South Wales**
Misuse of market power
 Retained to assist with all economic aspects of a potential Federal Court action under S46 of the Trade Practices Act alleging misuse of market power in the rail freight market.
- 2004 Clayton Utz/Sydney Water Corporation, New South Wales**
Competition in sewage treatment
 Retained to assist with Sydney Water's response to the application to have Sydney's waste water reticulation network declared under Part IIIa of the Trade Practices Act, on the basis this will promote competition in the retail market for sewage collection services.
- 2004 Blake Dawson Waldron/Boral, Australia**
Competition analysis of cement market
 Directed a NERA team advising on Boral's proposed acquisition of Adelaide Brighton Ltd, a cement industry merger opposed in Federal Court proceedings by the ACCC. Boral subsequently decided not to proceed with the transaction.
- 2004 MinterEllison/Singapore Power, Victoria**
Merger clearance
 Advice on competition issues arising from the proposed acquisition of TXU's Australian energy sector assets by Singapore Power. This included the submission of an expert report to the ACCC.
- 2004 Mallesons Stephen Jaques/Orica, New South Wales**
Competition in gas production and retail markets
 Retained as expert witness in the appeal by Orica against the Minister's decision to revoke coverage under the gas code of the substantial part of the Moomba to Sydney gas pipeline. The case was subsequently settled.
- 2004 Courts, Fiji**
Merger clearance, abuse of market power
 Prepared a report for submission to the Fijian Commerce Commission on the competition implications of the Courts' acquisition of the former Burns Philip retailing business, and related allegations of abuse of market power. The Commission subsequently cleared Courts of all competition concerns.

- 2003-04** **Mallesons Stephen Jaques/Sydney Airport Corporation, NSW**
Competition in air travel market
 Retained as principal expert witness in connection with proceedings before the Australian Competition Tribunal on economic aspects of the application by Virgin Blue for declaration of airside facilities at Sydney Airport under Part IIIa of the Trade Practices Act.
- 2003-04** **Bartier Perry/ DM Faulkner, New South Wales**
Alleged collusive conduct
 Submitted an expert report to the Federal Court in connection with allegations under s45 of the Trade Practices Act of collusive conduct leading to the substantial lessening of competition in the market for scrap metal. The ‘substantial lessening of competition’ element of this case was subsequently withdrawn.
- 2002-04** **Essential Services Commission, Victoria**
Effectiveness of competition
 Advisor on six separate reviews of the effectiveness of competition and the impact of existing or proposed measures designed to enhance competition in the markets for wholesale gas supply, port channel access services, liquid petroleum gas, retail electricity and gas supplies, and port services.
- 2003** **Gilbert + Tobin/AGL, Victoria**
Vertical integration in electricity markets
 Prepared a report on the international experience of vertical integration of electricity generation and retailing markets, in connection with proceedings brought by AGL against the ACCC. This report examined the principles applied by competition authorities in assessing such developments, and evidence of the subsequent impact on competition.
- 2002-03** **National Competition Council, Australia**
Gas market competition
 Expert report in connection with the application by East Australian Pipeline Limited for revocation of coverage under the Gas Code of the Moomba to Sydney Pipeline System. The report addressed both the design of a test for whether market power was being exercised through pipeline transportation prices substantially in excess of long-run economic cost, and the assessment of existing prices by reference to this principle.
- 2001-03** **Blake Dawson Waldron/Qantas Airways, Australia**
Alleged predatory conduct
 Directed a substantial NERA team advising on all economic aspects of an alleged misuse of market power (section 46 of the Trade Practices Act) in Federal Court proceedings brought against Qantas by the

ACCC. The proceedings were withdrawn soon after responding expert statements were filed.

- 2002** **Phillips Fox/AWB Limited**
Access and competition in bulk freight transportation
 Retained to provide an expert report and testimony on the pricing arrangements for third party access to the rail network and their impact on competition in the related bulk freight transportation services market, preparation for the appeal before the Australian Competition Tribunal of the Minister's decision not to declare the Victorian intra-state rail network, pursuant to Part IIIA of the Trade Practices Act. The case settled prior to the Tribunal hearings.
- 2002** **Australian Competition and Consumer Commission, Australia**
Anti-competitive bundling or tying strategies
 Provided two (published) reports setting out an economic framework for evaluating whether the sale of bundled or tied products may be anti-competitive. These reports define the pre-conditions for such strategies to be anti-competitive, and discuss the potential role and pitfalls of imputation tests for anti-competitive product bundling.
- 2002** **Minter Ellison/SPI PowerNet, Victoria**
Merger clearance
 Advice in connection with a bid for energy sector assets in Victoria on merger clearance under section 50 of the Trade Practices Act.
- 2001** **Gilbert + Tobin/AGL, New South Wales**
Gas market competition
 Advised counsel for AGL in connection with the application by Duke Energy to the Australian Competition Tribunal for review of the decision by the National Competition Council to recommend that the eastern gas pipeline should be subject to price regulation under the national gas code.
- 2000** **One.Tel, Australia**
Competitive aspects of Mobile Number Portability
 Advised on the competitive aspects of proposed procedures for Mobile Number Portability and whether these arrangements breached the Trade Practices Act in relation to substantial lessening of competition.
- 2000** **Baker & McKenzie/Scottish Power, Victoria**
Impact of consolidation on competition
 Expert report submitted to the ACCC on the extent to which the acquisition of the Victorian electricity distribution and retail business, Powercor by an entity with interests in the national electricity market

may lead to a 'substantial lessening of competition' in a relevant market.

Regulatory and Financial Analysis

- 2007** **Ministerial Council on Energy, Australia**
Review of Chapter 5 of the National Electricity Rules
 Retained to provide 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, South Australia**
Advice on Related Party Outsourcing Arrangements
 Retained to provide advice on the manner by which regulatory concerns surrounding related party outsourcing arrangements may be ameliorated.
- 2007** **Multinet, Victoria**
Review of Outsourcing Infrastructure Asset Management Contracts
 Retained to provide advice on the prudence of outsourcing contracts in the context of the National Gas Code and to benchmark operating margins levied by asset management service providers.
- 2006-07** **Ministerial Council on Energy, Australia**
Demand Side Response and Distributed Generation Incentives
 Conducted a review of the MCE's proposed initial national electricity distribution network revenue and pricing rules to identify the implications for the efficient use of demand side response and distributed generation by electricity network owners and customers.
- 2006** **Ministerial Council on Energy, Australia**
Electricity Network Pricing Rules
 Advice on the framework for the development of the initial national electricity distribution network pricing rules, in the context of the transition to a single, national economic regulator.
- 2005-06** **Australian Energy Markets Commission, Australia**
Transmission pricing regime
 Advisor to the AEMC's review of the transmission revenue and pricing rules as required by the new National Electricity Law.

- 2002-07** **Orion New Zealand Ltd, New Zealand**
Electricity lines regulation
 Advisor on all regulatory and economic aspects of the implementation by the Commerce Commission of threshold and control regime for the regulation of New Zealand electricity lines businesses. This role has included assistance with the drafting submissions, the provision of expert reports, and the giving of expert evidence before the Commerce Commission.
- 2001-07** **Auckland International Airport Limited, New Zealand**
Aeronautical price regulation
 Provided various expert reports and advice in relation to the review by the Commerce Commission of the case for introducing price control at Auckland airport and, subsequently, a fundamental review of airport charges due for implementation in 2007.
- 1998-2006** **Essential Services Commission, Victoria**
Price cap reviews
 Wide ranging advice to the Essential Services Commission (formerly the Office of the Regulator-General), on regulatory, financial and strategic issues arising in the context of five separate reviews of price controls applying in the electricity, gas distribution and water sectors in Victoria. This work has encompassed advice on the development of the Commission's work program and public consultation strategy for each review, direct assistance with the drafting of papers for public consultation, the provision of internal papers and analysis on specific aspects of the review, drafting of decision documents, and acting as expert witness in hearings before the Appeal Panel and Victorian Supreme Court.
- 2004-05** **Ministerial Council of Energy, Australia**
Reform of the national electricity law
 Retained for two separate advisory roles in relation to the reform of the institutions and legal framework underpinning the national energy markets. These roles include the appropriate specification of the objectives and rule making test for the national electricity market, and the development of a harmonised framework for distribution and retail regulation.
- 2004-05** **Johnson Winter Slattery, ETSA Utilities, South Australia**
Price determination
 Advice on a wide range of economic and financial issues in the context of ETSA Utilities' application for review of ESCOSA's determination of a five year electricity distribution price cap.

- 2000-07** **TransGrid, New South Wales**
National electricity market and revenue cap reset
 Regulatory advisor to TransGrid on a range of issues arising in the context of the national electricity market (NEM), including: the economics of transmission pricing and investment and its integration with the wholesale energy market, regulatory asset valuation, the cost of capital and TransGrid's 2004 revenue cap reset by the ACCC.
- 2004** **Deacons/ACCC, Australia**
Implementation of DORC valuation
 Prepared a report on the implementation of a cost-based DORC valuation, for submission to the Australian Competition Tribunal in connection with proceedings on the appropriate gas transportation tariffs for the Moomba to Sydney gas pipeline.
- 2003-04** **Natural Gas Corporation, New Zealand**
Gas pipeline regulation
 Advisor in relation to the inquiry by the Commerce Commission into the case for formal economic regulation of gas pipelines. This role includes assistance with the drafting of submissions, the provision of expert reports, and the giving of evidence before the Commerce Commission.
- 2001-03** **Rail Infrastructure Corporation, New South Wales**
Preparation of access undertaking
 Advised on all economic aspects arising in the preparation of an access undertaking for the New South Wales rail network. Issues arising include: pricing principles under a 'negotiate and arbitrate' framework, asset valuation, efficient costs, capacity allocation and trading, and cost of capital.
- 2002** **Clayton Utz/TransGrid, New South Wales**
National Electricity Tribunal hearing
 Retained as the principal expert witness in the appeal brought by Murraylink Transmission Company of NEMMCO's decision that TransGrid's proposed South Australia to New South Wales Electricity Interconnector was justified under the national electricity code's 'regulatory test'.
- 2001-02** **SPI PowerNet, Victoria**
Revenue cap reset
 Advisor on all regulatory and economic aspects of SPI PowerNet's application to the ACCC for review of its revenue cap applying from January 2003. This included assistance on regulatory strategy, asset valuation in the context of the transitional provisions of the national

electricity code, drafting and editorial support for the application document, and the conduct of a 'devil's advocate' review.

1999-2002

Sydney Airports Corporation, New South Wales

Aeronautical pricing notification

Directed all aspects of NERA's advice to Sydney Airports Corporation in relation to its notification to the ACCC of proposed aeronautical charges at Sydney Airport. This work involved the analysis and presentation of pricing and revenue determination principles and their detailed application, through to participation in discussion of such matters at SACL's board, with the ACCC, and in a public consultation forum.

2002

Corrs Chambers Westgarth/Ofgar, Western Australia

Economic interpretation of the gas code

Provision of expert report and sworn testimony in the matter of Epic Energy vs Office of the Independent Gas Access Regulator, before the Supreme Court of Western Australia, on the economic interpretation of certain phrases in the natural gas pipelines access code.

2001

ACCC, Australia

Determination of local call resale prices

Advised the ACCC regarding the determination of local call resale prices from Telstra's fixed line network. This included providing advice on how the cost of community service obligations should be allocated to competitors with wholesale access to local calls.

1999-2001

ACCC, Australia

Cost of capital

Undertook various assignments in relation to the cost of capital for regulated businesses. These included: an analysis of the approach taken by regulators overseas in relation to the treatment of taxation in estimating the WACC, and the use of pre-tax versus post-tax WACC formulations in regulation; and, a survey of regulatory decisions in relation to the cost of capital across a range of international jurisdictions. Two reports have been published by the ACCC.

2000

Gilbert + Tobin/AGL, South Australia

Vesting contract terms

Advised AGL SA in connection with its application to the ACCC for revocation and substitution of both vesting contract terms and network pricing provisions for the retail supply of electricity in South Australia.

- 2000** **Commonwealth Bank of Australia, Australia**
Access arrangements
 Advised on the legislative framework for access to essential facilities in Australia in comparison to the frameworks used in the United States, United Kingdom and European Union. This included an assessment of the pricing policies regulators use when setting access tariffs, and relevant case studies from the electricity, telecommunications and transportation industries.
- 1998, 2000** **Rail Access Corporation, New South Wales**
Regulatory and pricing strategy
 Advisor on regulatory and financial issues arising in the context of the 1998/99 IPART review of the NSW rail access regime. Subsequently, prepared two board papers on, first, the principles for commercially sustainable pricing in the context of the NSW access regime and, second, on issues and options for addressing the growing imbalance between costs and revenues, including the probable need to finance a significant increase in capital expenditure.
- 1998-9** **MWSS Regulatory Office, Philippines**
Regulation by concession
 Advised the MWSS Regulatory Office on its response to applications for “extraordinary price adjustments” under the terms of the two, twenty five-year, water and wastewater concession agreements. This involved an assessment of the grounds for the applications, the associated financial impact, and the appropriate rate of return to be applied in determining the consequent price adjustment. Subsequently, provided expert testimony in the arbitration of one applicant’s appeal of the Regulatory Office’s decision.

Valuation and Cost Analysis

- 2006** **Confidential Client/Australia**
Valuation of digital copyright
 Provided oral advice in relation to a negotiation for a licence for digital copyright. The advice included a theoretical discussion of the issues that should be considered in determining fees for a digital copyright licence, including the extent to which digital material should be valued differently to print material and whether the charging mechanism for print is appropriate for digital copyright.
- 2006** **Minter Ellison/Australian Hotels Association**
Valuation of copyright material
 Expert report in the context of proceedings before the Copyright Tribunal concerning the appropriate valuation of the rights to play recorded music in nightclubs and other late night venues.

- 2005-06** **Minter Ellison and Freehills/Santos**
Gas supply agreement arbitrations
Principal economic expert in two separate arbitrations of the price to apply following review of a major gas supply agreement between the South West Queensland gas producers and, respectively, a large industrial customer and major gas retailer.
- 2002-03** **ActewAGL, ACT**
Consumer willingness to pay
Directed a one year study of consumers' willingness to pay for a range of attributes for electricity, gas and water services in the ACT. This study involved the use of focus groups, the development of a pilot survey and then the implementation of a stated preference choice modelling survey of household and commercial customer segments for each utility service.
- 2002-03** **National Electricity Market Management Co, Australia**
Participant Fee Determination
Advice to NEMMCO in the context of its 2003 Determination of the structure of Participant Fees, for the recovery of NEMMCO and NECA's costs from participants in the national electricity market.
- 2002** **Screenrights, Australia**
Non-market valuation methods
Advice on the range and suitability of revealed preference and stated preference survey methodologies for valuing the retransmission of free to air television broadcasts for the purposes of determining the 'equitable remuneration' to be paid for retransmission of copyright material contained in free-to-air television broadcasts.
- 2001-03** **Minter Ellison/Optus Networks, New South Wales**
Arbitration of market lease fee
Retained as expert witness in the mediation and then arbitration between Optus Networks and United Energy on the appropriate annual market fee for leasing electricity pole space for the attachment of HFC coaxial cable.
- 2001** **Gilbert & Tobin/One.Tel, Australia**
Arbitration on the local loop service
Advice on the pricing of Telstra's unconditioned local loop service (ULLS) for use in arbitration.
- 2001** **Department of Natural Resources and Environment, Victoria**
Efficient pricing of water services
Prepared a report setting out the principles for efficient pricing of urban water services, an evaluation of the structure of existing

wholesale and retail water tariffs in metropolitan Melbourne, and recommended reforms.

- 1998-2000** **TransGrid and EnergyAustralia, NSW**
Cost effectiveness study of transmission capacity augmentation
 Directed a NERA team that conducted a cost effectiveness analysis of alternative options for augmenting transmission capacity to the Sydney CBD area. This included identification and evaluation of alternative transmission, generation and demand side management options, and application of the 'regulatory test', as defined in the national electricity code.
- Institutional and Regulatory Reform***
- 2006** **Bulk Entitlement Management Committee, Melbourne**
Development of urban water market
 Prepared a report for the four Melbourne water businesses on options for the devolution of the management of water entitlements from collective to individual responsibility.
- 2003-05** **Goldman Sachs/Airport Authority, Hong Kong**
Framework for economic regulation
 Lead a team advising on the options and detailed design of the economic regulatory arrangements needed to support the forthcoming privatisation of Hong Kong Airport.
- 2003-04** **Ministry of Finance, Thailand**
Framework for economic regulation
 Lead a team advising on the detailed design and implementation of a framework for the economic regulation of the Thai water sector in order to support the proposed corporatisation and then privatisation of the Metropolitan Water Authority of Bangkok.
- 2003** **Metrowater and Auckland City, New Zealand**
Water industry reform options
 Provided a report on alternative business models for the Auckland City water services supplier, Metrowater, in the context of proposals for structural reform elsewhere in the industry. This report examined the long term drivers of water industry efficiency and the costs and benefits of alternative structural reform options.
- 2001** **Independent Pricing and Regulatory Tribunal (IPART), NSW**
Review of energy licensing regime
 Directed a program of work for in the context of IPART's year-long review of the energy licensing regime in NSW. This review included

the identification - by reference to experience in other state and international jurisdictions - of the most effective regulatory model for the licensing of both network and retail functions in the electricity and gas sector, the development of a compliance monitoring and reporting framework, and an assessment of the need for and nature of minimum service standards.

1999

Department of Treasury and Finance, Victoria

Urban water market

Developed a comprehensive proposal for the introduction of tradeable rights for bulk water used to supply metropolitan Melbourne. This involved detailed design of the form and allocation of rights, the role of a weekly spot market to determine storage draw down decisions, the specification of a 'market model' and the institutional arrangements for rights registration, trading, and the operation of an open access transfer system.

1994

Office of Water Reform, Victoria

Water markets

Developed a conceptual framework and the detailed requirements for its application to create markets for the trading of water rights across the state of Victoria. The recommendations of this report have underpinned subsequent reforms undertaken by the Victorian government as recently as 2006.

Sworn Testimony, Transcribed Evidence

2006

Expert report submitted to arbitration proceedings before Sir Daryl Dawson and David Jackson, QC, between Santos and others, and AGL

Expert report, sworn evidence, November 2006

Expert Evidence before the Federal Court on behalf of Fortescue Metals Group in the matter of BHP Billiton vs National Competition Council and Others

Expert report, sworn evidence, November 2006

Expert report submitted to arbitration proceedings before Sir Daryl Dawson and David Jackson, QC, between Santos and Others, and Xstrata Queensland

Expert report, sworn evidence, September 2006

Expert evidence before the Copyright Tribunal on behalf of the Australian Hotels Association and others in the matter of PPCA vs AHA and Others

Expert report, sworn evidence, May 2006

Statement submitted to arbitration proceedings before Hon Michael McHugh, AC QC, on the matter of AWB Limited vs ABB Grain Limited

Expert report, sworn evidence, 24 May 2006

Statements submitted to the Appeal Panel, in the matter of the appeal by United Energy Distribution of the Electricity Price Determination of the Essential Services Commission

Expert report, sworn evidence, 10 February 2006

2005

Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on its Notice of Intention to Declare Control of Unison Networks

Transcribed evidence, public hearings, Wellington, 17 November 2005

Expert evidence on behalf of Orion NZ, at the Commerce Commission's Conference on Asset Valuation choice and the electricity industry disclosure regime

Transcribed evidence, public hearings, Wellington, 11 April 2005

2004

Statements submitted to the Australian Competition Tribunal, in the matter of Virgin Blue Airlines vs Sydney Airport Corporation

Expert reports, sworn evidence, 19-20 October 2004

Expert evidence on behalf of Orion NZ, at a Commerce Commission's Conference on the ODV Handbook for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 26 April 2004

2003

Expert evidence on behalf of Orion NZ, in response to the Commerce Commission's draft decision on re-setting the price path threshold for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 5 November 2003

Expert evidence on behalf of NGC Holdings, in response to the Commerce Commission's draft framework paper for the gas control inquiry.

Transcribed evidence, public hearings, 3 September 2003

Affidavit submitted to the Federal Court, in the matter of ACCC vs DM Faulkner and Others

Expert report, Federal Court of Australia, May 2003

Expert evidence on behalf of Orion NZ, in response to the Commerce Commission's draft decision on a targeted control regime for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 25 March 2003

2002

Expert evidence on behalf of Orion NZ, in the Commerce Commission's review of asset valuation methodologies for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 25 November 2002

Expert evidence on behalf of Optus Networks and Optus Vision Ltd, in the matter of an arbitration with United Energy Ltd

Expert report, prior to settlement, 18 October 2002

Expert statement submitted to the National Electricity Tribunal, in the matter of Murraylink Transmission Company vs NEMMCO, TransGrid, and others

Sworn Testimony, National Electricity Tribunal, Melbourne, 26 August 2002

Expert evidence on behalf of Orion NZ, in the Commerce Commission's review of control regimes for electricity lines businesses

Transcribed evidence, public hearings, Wellington, 21 August 2002

Affidavit submitted to Supreme Court of Western Australia, in the matter of Epic Energy vs Dr Ken Michael – Independent Gas Access Regulator

Sworn testimony, Supreme Court of Western Australia, November 2002

2001

Expert evidence on behalf of Auckland International Airport, in the Commerce Commission's review of airfield price control

Transcribed evidence, public hearings, Wellington, 4-5 September 2001

Expert evidence on behalf of Optus Networks, in the matter of Optus Networks vs United Energy

Mediation before Trevor Morling QC, Sydney, August and September 2001

- Expert evidence on behalf of Sydney Airports Corporation in the Productivity Commission's review of airport regulation**
Transcribed evidence, public hearings, Melbourne, 3 April 2001
- Affidavit submitted to Supreme Court of Victoria, in the matter of TXU vs Office of the Regulator-General**
Sworn testimony, Supreme Court of Victoria, 23-26 March 2001
- 2000** **Evidence on behalf of Sydney Airports Corporation in the aeronautical pricing determination by the ACCC**
Transcribed evidence, public forum, Melbourne, 13 December 2000
- Expert Statement on Rural Risk and the Weighted Average Cost of Capital, in the matter of an appeal by Powercor Australia Ltd of the Office of the Regulator-General's Electricity Price Determination 2001-05**
Sworn testimony before the Appeal Panel, Melbourne, 13 October 2000
- 1999** **Affidavit submitted in arbitration proceedings between the MWSS Regulatory Office and Manila Water Company on the cost of capital for the Manila water concession agreements**
Sworn testimony, Manila, 20 August 1999
- 1998** **Expert evidence on behalf of Great Southern Networks in the gas access determination by IPART**
Transcribed evidence, Sydney, 12 November 1998
- 1996** **Expert evidence before the Monopolies and Mergers Commission inquiry into the proposed merger of Wessex Water plc and South West Water plc**
Transcribed evidence, London, August 1996
- 1995** **Expert evidence before the Monopolies and Mergers Commission inquiry into the proposed acquisition of Northumbrian Water plc by Lyonnaise des Eaux**
Transcribed evidence, London, March 1995

Speeches and Publications

- 2007** **Assessing the Merits of Early Termination Fees, *Economics of Antitrust: Complex Issues in a Dynamic Economy*, Wu, Lawrence (Ed)**
NERA Economic Consulting 2007
- Trade Practices Workshop**
Access to Monopoly Infrastructure Under the Trade Practices Act: Current Issues with Part IIIa and Section 46
Conference Paper Co-Author, Canberra, 22 July 2006
- 2005** **Federal Court Judges' Conference**
Use of Quantitative Methods in Competition Analysis
Paper and speech, Sydney, 20 March 2005
- 2004** **ACCC Regulation Conference**
Market Power in Utility Industries
Speech, Gold Coast, 29 July 2004
- Australian Water Summit**
Integrating Regional and Urban Water Management Strategies
Speech, Melbourne, 25 February 2004
- 2003** **Assessing the Competitive Effects of Bundling: the Australian Experience, *Economics of Antitrust, New Issues, Questions and Insights*, Wu, Lawrence (Ed)**
NERA Economic Consulting, 2004
- Water Infrastructure Conference**
Pricing to promote reuse and recycling – Why Pay More for Less?
Speech, Melbourne, 28 July 2003
- ACCC Incentive Regulation and Implementation Seminar**
To Index or Not to Index – Is that the Right Question?
Speech, Melbourne, 8 May 2003
- Australian Water Summit**
Establishing Water Markets Why? How? What Next?
Speech, Sydney, 27 February 2003
- 2002** **Australian Energy Users Association Conference**
Emerging Themes in Energy Sector Reform – Global and Local
Speech, Melbourne, 15 October 2002

Australian Conference of Economists
Efficient Transmission: Where to from here?
Conference Paper, Adelaide, 3 October 2002

ACCC Conference
Foundation Contracts and Greenfields Pipeline Development – an Economic Perspective
Speech, Melbourne 26 July 2002

2001 **IPART Conference, Incentive Regulation at the Crossroads**
Incentive Regulation: at the Cross Roads or Back to the Future?
Speech, Sydney, 5 July 2001

World Bank Conference on Private Participation in Infrastructure
A Regulatory Perspective
Speech, Beijing, 15 November 2001

Airports Council International (ACI) World Conference
Role of prices in managing airport congestion
Presentation of paper, Montreal, 11 September 2001

NSW Power Conference
Electricity transmission pricing and investment
Presentation of paper, Sydney, 30 August 2001

ACCC Regulation and Investment Conference
International Comparison of Regulated Rates of Return
Speech and presentation of paper, Sydney 26 March 2001

Publicly Available Reports

2007 **Review of the Effectiveness of Energy Retail Market Competition in South Australia**
A report for the Essential Services Commission of South Australia, June 2007

- 2006**
- Consistency of the Transmission Rules with the Competition Principles Agreement**
A report for the Australian Energy Market Commission, December 2006
- Study of the Hong Kong Auto-fuel Retail Market**
A report for the Economic Development and Labour Bureau, Hong Kong, April 2006
- Expert Panel on Energy Access Pricing**
A report to the Ministerial Council on Energy, April 2006
- 2005**
- Intention to Declare Control**
A report for Orion, October 2005
- Efficient Investment in Transmission and its Alternatives**
A report for Mighty River Power, July 2005
- Wealth Transfers in Cost Benefit Analysis**
A report for Auckland International Airport, January 2005
- 2003**
- Asset Valuation for the Gas Control Inquiry**
A report for NGC Holdings, August 2003
- Estimating the Rate of Economic Profit for Electricity Lines Businesses**
A report for Orion, November 2003
- Inclusion of Competition Benefits in the Regulatory Test**
A report for TransGrid, April 2003
- Imputation Tests for Bundled Services**
A Report for the ACCC, January 2003
- Anticompetitive Bundling Strategies**
A Report for the ACCC, January 2003
- 2002**
- The Hypothetical New Entrant Test in the Context of Assessing the Moomba to Sydney Pipeline Prices**
A Report for the ACCC, September 2002
- A Comment on the Commerce Commission's Report: Regulation of Electricity Lines Businesses**
A Report for Orion, May 2002

Review of Energy Licensing Regimes in NSW: Compliance Monitoring and Reporting Framework

A Report for IPART, March 2002

Review of Energy Licensing Regimes in NSW: Minimum Service Standards

A Report for IPART, January 2002

2001

Review of Energy Licensing Regimes in NSW: Most Effective Regulatory Model

A Report for IPART, November 2001

A Review of Melbourne's Water Tariffs

Report for the Department of Natural Resources and Environment

A Critique of Price Control Study of Airfield Activities

A Report for Auckland International Airport Limited, August 2001

International Comparison of Utilities' Regulated Post Tax Rates of Return in North America, the United Kingdom and Australia

A Report for the Australian Competition and Consumer Commission (ACCC), March 2001

A Critique of Crew and Kleindorfer's Paper Comparing Single and Multi-till Pricing Methodologies

A Report for Sydney Airports Corporation, February 2001

Katherine Lowe

Consultant

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 201 Sussex Street
 Sydney NSW 2000
 Tel: +1 212 345 9904
 E-mail: katherine.lowe@nera.com
 Website: www.nera.com



Overview

Katherine Lowe has five years experience as an economist working within the areas of energy, infrastructure regulation, 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

2006-	NERA ECONOMIC CONSULTING <u>Consultant, Sydney</u>
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- 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

- 2007** **Ministerial Council on Energy Smart Meter Working Group**
Cost Benefit Analysis of Proposed Smart Meter Infrastructure Rollout
Retained to provide advice on 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** **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
Retained to provide advice on the development of a national framework for connection applications and capital contributions in the context of the National Electricity Rules.
- 2007** **Freehills/Telstra**
Shareholder Class Action
Retained to provide advice on damages estimates for alleged failure of Telstra to disclose information to the ASX.

- 2007** **Powercor/CitiPower**
Advice on Related Party Outsourcing Arrangements
Retained to provide advice on the manner by which regulatory concerns surrounding related party outsourcing arrangements may be ameliorated.
- 2007** **Multinet**
Review of Outsourcing Infrastructure Asset Management Contracts
Retained to provide advice on the prudence of outsourcing contracts in the context of the National Gas Code and to benchmark operating margins levied by asset management service providers.
- 2007** **Envestra**
Review of Outsourcing Infrastructure Asset Management Contracts
Retained to provide advice on the prudence of outsourcing contracts in the context of the National Gas Code and to benchmark operating margins levied by asset management service providers.
- 2007** **Optus, Australia**
Development of a Special Access Undertaking
Provided advice on the pricing principles that should be incorporated into the Fibre to the Node Special Access Undertaking.
- 2006-07** **Middletons/Confidential Client**
Damages assessment
Retained to provide advice on forecast demand and supply conditions and prices for gas, LPG, ethane and crude oil prices and over a ten year period.
- 2006** **Freehills/South Australian Gas Producers, NSW and South Australia**
Gas supply agreement arbitration
Provided economic advice in 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
 Undertook an audit of 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.
- 2005-06** **Mass Torts and Securities divisions**
 Over 2005-06 Katherine worked within the New York office where she was involved in the examination of the expected personal injury related liabilities of major US companies. Her responsibilities 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.
- In addition to the above, Katherine was responsible for the preparation of briefing material and presentations to be provided to both clients and counsel. She has also assisted in the drafting of expert reports and demonstratives to be relied upon in court.
- 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.

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