27 April 2012

Electricity Network Inquiry
Productivity Commission,
GPO Box 1428
Canberra City
ACT 2601

Dear Sir,

Submission on Productivity Commission Issues Paper, Electricity Network Regulation

The Energy Users Association of Australia welcomes the opportunity to make a submission to the Productivity Commission's Issues Paper. The matters under inquiry by the Commission are very important to energy users and we especially welcome the involvement of the Commission, given its role as an independent adviser to Governments on micro-economic issues.

We would be happy to discuss the submission with the Commission or answer any questions that you may have. We look forward to participating further in the Commission's inquiry.

Thank you for granting us an extension of time to provide this submission.

Yours faithfully,

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Executive Director

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SUBMISSION TO THE PRODUCTIVITY COMMISSION

Electricity Network Regulation Inquiry: Issues Paper

27th April 2012

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Executive Summary

This document is the Energy Users Association of Australia's (EUAA) submission to the Productivity Commission on its Issues Paper on the role of benchmarking and the framework for interconnection regulation.

The EUAA is the national association of energy users – electricity and gas. The combined energy use of EUAA members accounts for a significant proportion of energy consumed in Australia and our members make a substantial contribution to the national economy in terms of production, investment, employment and regional activities. We have around 100 members including major energy users, across many industries and all States. We welcome the opportunity to provide a submission to the Productivity Commission's review, in view of the importance of network regulation to energy users and the role of the Commission as an independent body advising governments on micro-economic issues.

Benchmarking

In this submission we have sought to contribute our perspectives on the value of benchmarking relative to alternative expenditure assessment methodologies. Economic benchmarking of monopoly energy networks is extremely important to energy users who have no choice but to use these services, which make up around half of their delivered price of energy, and who desire to see network costs that are as efficient as possible and mimic those that would be expected if these services could be provided in a competitive manner.

We have set out in this submission our views on important regulatory design and regulatory conduct issues that we suggest need to be considered in ensuring that benchmarking approaches can be as effective as possible. The main points include:

- That regulatory benchmarking is stooped in sound economic theory and is practiced in jurisdictions that went through a similar phase of energy reforms to Australia and applied incentive based regulation to drive greater efficiency into their monopoly energy networks. Australia borrowed this regulatory design as part of its energy reform process but has not applied benchmarking to anywhere near the same extent as Great Britain, for example.
- Benchmarking of infrastructure monopolies, including energy networks, was strongly supported by the Hilmer Review, amongst others. Its use is also 'hard wired' into the National Electricity Rules. We assume that the reasons for this are that the process adds value to any regulatory determination.
- The choice in regulation of energy network monopolies ultimately lays between 'forensic', detailed, line-by-line assessments or higher level comparative assessments. The former have their place but reliance on this exclusively, as has been the case under the NER, is far more prone to capture by the regulated business and therefore likely to deliver outcomes that favour them. Comparative assessments, such as benchmarking, have some shortcomings (eg they need rigour to be useful) but can 'cut through' the detail and provide important additional perspectives on key regulatory parameters such as capital and operating expenses. They have been utilised to good effect in other countries such as Great Britain, with beneficial outcomes for energy consumers.
- Current aspects of regulatory design in the NEM, particularly the fact that the onus of proof lies with the regulator to prove a network businesses' proposals are wrong and the limited merits review appeals system, which encourages 'cherry picking' of AER decisions by network businesses, and applies a legalistic end point to what are complex economic issues, are not well juxtaposed. One consequence is that the

> AER's ability to benchmark expenditures is restricted and its incentives to do so are blunted. The results inevitably favour the regulated entities over consumers.

There are several aspects of the AER's conduct that we suggest will impact the effectiveness of comparative approaches in setting efficient expenditure allowances. We draw these to the Productivity Commission's attention to emphasise the importance of institutional arrangements in the successful use of comparative approaches. These are: the application of the appropriate level of rigour by the AER in applying comparative assessments lest it succumb to demands for more-and-more detailed assessments made by the regulated businesses; recognition by the regulator of the fallibility of forensic approaches; the need for economic, rather than legalistic mindsets by the regulator so as to ensure that comparative approaches play their role in determining expenditures; and the regulator exerting authority and independence over the regulated network monopolies in the determination process.
In the second half of this submission we contribute our perspective on interconnection issues.

Interconnection

In our view interconnector augmentation is justified if it allows for the dispatch of lower cost generation and the total cost of energy produced (and delivered) is lowered as a result.

We also believe that regard should be had to the potential for interconnector augmentation to improve competition particularly in markets on the import side of the interconnector.

In previous debates on interconnector development, such price effects have often been dismissed as "wealth transfers", not economic gains. We think this is generally too simplistic as it ignores the impact of limiting market power on the longer-term dynamic efficiency of electricity production.

However, the calculation of the benefits and costs of interconnector development – relying as it does on uncertain future outcomes - is inherently difficult. We believe that there is a problem in interconnector investment but also suggest that it is also difficult to be certain that such a problem is always best solved through greater interconnection. Significant and sustained price differences between NEM regions are not, in our view, always indicative of insufficient interconnection. There might be other reasons for high prices in individual NEM regions, such as the exercise of market power, market design features (such as the NEM's extreme Market Price Cap, currently set at $12,500/MWh compared to normal prices in the range of $30-40/MWh), inadequate demand-side participation, poor price signalling to consumers, amongst other factors. Significant price differentials between NEM regions might then be more efficiently dealt with through changes in these areas, rather than through greater interconnection.

In this submission we have illustrated the interconnection issue by analyzing the situation in South Australia. We conclude that the case for expansion of the interconnectors to South Australia is not to meet capacity shortfalls in South Australia, but to reduce the ability of South Australian generators to exercise market power by, effectively, withholding capacity. Our analysis shows that with extreme prices seen in the 72 highest priced settlement periods in South Australia (and by implication substantial benefits if they can be reduced to more normal levels), the argument for interconnector expansion to South Australia is, *prima facie*, strong.

However, more would need to be done to substantiate this conclusion: how much would the interconnector need to be expanded to effectively diminish the ability to exercise market power, and how much would this cost? Is spare capacity available in Victoria or would the

expansion of the interconnector simply “export” South Australia’s prices into Victoria? Would it be more economical, and a better allocation of investment risk to encourage Open Cycle Gas Turbine (OCGT) expansion and greater demand-side response in South Australia, rather than by expanding the interconnector? Could the extreme outcomes in South Australia be dealt with by changes to the design of the electricity market, or even more simply through much lower market price caps?

We suggest that these are the sorts of questions that the Productivity Commission should explore in assessing the case for interconnector augmentation.

In particular, it should assess whether it would be better to try to improve the design of the NEM, to better reflect spot prices in the tariffs paid by end users and encourage demand-side participation in the energy market in preference to interconnector expansion? Encouraging the expansion of network monopolies, whose costs and risks users bear directly through regulated charges, should ensure that the costs of this option do not exceed the benefits or whether a more competitive basis to provide interconnection can be found.

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Introduction

This document is the Energy Users Association of Australia's (EUAA) submission to the Productivity Commission on its *Issues Paper* on the role of benchmarking and the framework for interconnection regulation.

The EUAA is the national association of energy users – electricity and gas. The combined energy use of EUAA members accounts for a significant proportion of energy consumed in Australia and our members make a substantial contribution to the national economy in terms of production, investment, employment and regional activities. We have around 100 members including major energy users, across many industries and all States. We welcome the opportunity to provide a submission to the Productivity Commission's inquiry.

The Treasurer has asked the Productivity Commission to undertake an inquiry into benchmarking arrangements and the effectiveness of the application by network businesses of the current regulatory regime for the evaluation and development of interregional network capacity in the National Electricity Market (NEM).

The terms of reference of this inquiry notes that "*recent increases in network expenditure, and the resultant flow on to increases in electricity prices for end users, have highlighted the need to ensure networks continue to deliver efficient outcomes for consumers*".

We understand that the main purpose of the benchmarking aspects of this inquiry is to inform the Australian Government "*whether there are any practical or empirical constraints on the use of benchmarking of network businesses and then provide advice on how benchmarking could deliver efficient outcomes, consistent with the National Electricity Objective (NEO)*".

We take from this that the Treasurer and Government are concerned about rising electricity prices, and the contribution that increasing expenditure by networks has had on this. We also take from this that the Treasurer seems concerned that benchmarking has not played a greater role in the economic regulation of networks and seeks to understand whether there are good reasons for this. We applaud the Treasurer for seeking the Productivity Commission's advice on this.

This submission has two parts, the first focuses on benchmarking and the second on interconnection. The first part presents a history of the policy and practice of benchmarking in network economic regulation. It then discusses the value of comparative approaches (of which "benchmarking" is one) in comparison to the alternative, detailed line-by-line forensic approaches. We then present our thoughts on the regulatory design and regulatory conduct factors that are likely to affect the success of comparative approaches in network economic regulation. The last part of the paper presents thoughts on interconnection, with reference to a brief analysis of the situation in South Australia.

Part 1: Benchmarking

Background

Policy support for benchmarking of regulated network services in the NEM

The AER has an obligation in the National Electricity Rules (NER) to have regard to benchmark efficient expenditures in making its future price or revenue control determinations. It is useful to set out the context to this obligation in the Rules, starting with the National Competition Policy Review.

In 1993 the National Competition Policy Review undertaken by a Committee of Inquiry chaired by Prof Fred Hilmer (the "Hilmer Review") created the impetus for numerous micro-economic reforms that followed over the next fifteen years. In their report, the Committee recommended a new competition policy regime focussed on competition and the promotion of efficiency. In proposing approaches for the control of prices charged by monopolies, the Committee suggested:

> *"several potential bases, or benchmarks, which can be used to assess the appropriateness of a firm's proposed price increases, including movements in the firm's costs, movements in the general price level, and so-called "yard-stick" competition, where the performance of comparable firms is used as a reference".* [1]

The Bureau of Industry Economics used these approaches in its comparative assessment of the efficiency of the Australian electricity industry in its 1996 International Benchmarking Report.[2]

The Australian Competition and Consumer Commission, in a report[3] to the Utility Regulators' Forum in November 2000 noted that:

> *"Since the 1980s Australia has undertaken a major process of utility reform at both national and State levels. Increasing evidence — including from international benchmarking studies — of poor utility performance in key areas such as telecommunications, transport, water, gas and electricity led to the ensuing reform process in the organisational, management and ownership structures of utilities; and partially opened them up to competition."*

In 2004, in its "Statement of Principles for the Regulation of Transmission Services" the then newly established Australian Energy Regulator AER said that:

> "*To facilitate greater use of benchmarking data in determining the opex allowance to be included in a revenue cap, the ACCC intends to establish a*

[1] National Competition Policy Review, Committee of Inquiry, 1993. Available from the Australian Government Publishing Services, Canberra , page 279.

[2] Bureau of Industry Economics, 1996. "Electricity 1996, International Benchmarking Report", AGPS, Canberra.

[3] Incentive regulation, benchmarking and utility performance, ACCC, November 2000.

> *working group by April 2005 to benchmark the performance of TNSPs and report by October 2006*".[4]

This development was subsequently superseded by the creation of the Australian Energy Markets Commission (AEMC), which reviewed Chapter 6A of the National Electricity Rules in 2006.

From the first proposed draft of the National Electricity Rules, the AEMC included a requirement that the AER have regard to benchmarking in its determination of the efficient levels of opex and capex to be included in the calculation of regulated revenues of the regulated businesses. This requirement was opposed by the Electricity Transmission Network Owners Forum, who argued firstly that the results of benchmarking techniques should not be relied upon for setting transmission revenues and that if they were to be included they should be subject to certain requirements.[5]

The Energy Networks Association (representing electricity and gas distributors), in its submission to the AEMC's draft decisions, recognised the value of benchmarking in helping regulators overcome information asymmetries, but then suggested that benchmarking is not necessarily appropriate to regulated businesses.[6]

The Electricity Transmission Network Owners and Energy Networks Association respectively suggested that the AEMC should restrict the AER's ability to use benchmark information unless it met specific criteria, and that the AER should be required to place less weight on the results of benchmark studies in its determination of allowed revenues relative to the weight it should place on the regulated businesses' proposal.[7, 8]

The AEMC partially rejected these arguments and implemented Rules that required the AER to have regard to benchmark information, amongst other factors in setting allowances for capital and operating expenditure.

This history suggests that the intent to apply benchmarks has a reasonably secure basis in policy, particularly in the context of the pro-efficiency micro-economic reforms that emerged from the Hilmer Review and have been applied to major parts of the economy.

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[4] Statement of Principles for the regulation of electricity transmission revenue, ACCC, 18 August 2004).

[5] "AEMC Review of the Electricity Transmission Revenue and Pricing Rules: Issues Paper on Revenue Requirements", Submission by the Electricity Transmission Network Owners, November 2005, page 5.

[6] Energy Networks Association, Submission to the AEMC Issues Paper on Revenue Requirements, November 2005, Page 7.

[7] Submission by the Electricity Transmission Network Owners to the AEMC Review of the Electricity Transmission Revenue and Pricing Rules: Issues Paper on Revenue Requirements, November 2005, page 18-19

[8] Energy Networks Association submission to the AEMC Draft Rule and Rule Proposal Report, 24 March 2005, page 5.

The actual use of benchmarking in the regulation of network service providers in the NEM

Mountain and Littlechild (2010) noted that benchmarking in Australia has been supported in principle but has become somewhat inconsequential in practice. They noted its limited use in early regulatory decisions by jurisdictional regulators in New South Wales and Victoria and its complete absence in regulatory decisions by the ACCC for transmission network service providers.

The Energy Users Association of Australia (EUAA) has been an active participant in almost all the determinations by the ACCC and subsequently the AER of the price or revenues caps for Australia's transmission and distribution network service providers. In these submissions we have suggested that benchmarking should play a greater role in the determination of expenditure allowances.

Our view is that benchmarking has generally had an insignificant role in the AER's determination of expenditure allowances. We have observed that in most of its determinations there is no evidence that the AER has benchmarked capitalised expenditure allowances at all. The benchmarking that it has done of operating expenditures has not, in our opinion, been adequate. Even where there is some evidence of benchmarking by the AER, there is no evidence of how this information affected its view of the appropriate expenditure allowances.

In 2009, the EUAA sought leave to appeal to the Australian Competition Tribunal (ACT) on the AER's failure to have regard to benchmarks of efficient expenditures in its decisions on the price caps for Transgrid, the New South Wales transmission network service providers and also for Transend, the Tasmanian transmission network service provider.

The ACT refused the EUAA leave to appeal on the basis that the EUAA could not demonstrate that the AER's failure to have regard to benchmarks satisfied the financial threshold for appeals under the National Electricity Law. The Tribunal required the EUAA to have benchmarked the distributors' expenditure and to show that, had the AER also done this, the expenditure allowance would have been significantly lower than the allowance determined by the AER. Obviously, the EUAA was not in a position to undertake extensive regulatory benchmarking itself and so could not satisfy the Tribunal's criterion for leave to appeal the AER's determination.[9]

We have found the AER's approach to benchmarking to be inconsistent. It has suggested variously that it has had regards to benchmarks as it is required to in the Rules. At other times it has said that it sees benchmarking as little more than a "longer term proposition". It has also said that that it does not have sufficient data to benchmark NSPs, and that its progress in the use of benchmarks depends on the establishment of appropriate data sets, which it intends to develop. More recently, in its recent network regulation Rule Change proposals put to the AEMC, the AER has argued that the current Rules effectively prevent it from using benchmarking and has sought changes which it says will overcome these restrictions.

Our view is that what the AER has so far done in the use of benchmarks falls well short of the policy intent underlying the requirement to benchmark expenditure.

[9] Aside from the considerable resources needed to do this so that it would satisfy the Law, there was also the issue access to data, which could only really come from the network businesses and the legal powers to get it.,

The economic regulation of gas and electricity NSPs in the NEM

In our view, consideration of the appropriate role of benchmarking in regulatory decisions must take account of the system of economic regulation, and the incentives that that system providers to NSPs, and the regulator. This section starts with a summary description of the design of economic regulation in the NEM which leads to conclusions on the incentives that it provides. This leads to a discussion on different ways of assessing a firm's expenditure application and hence to conclusions on the relative value of comparative assessments in regulatory determinations.

Regulatory design and consequential incentives

The Rules establishes quinquennial price or revenue control decisions for monopoly NSPs. These decisions include proposals of the level of capitalised and operating expenditure that the regulated business considers to be reasonable and efficient during the regulatory control period. The regulator is put in the position of responding to these proposed expenditures and must show them to be unreasonable if they wish to substitute alternatives. This arrangement provides very strong incentives for NSPs to propose the highest possible level of expenditure during the regulatory control period that they think the regulatory will accept. They can be expected to do that, partly out of their interest in minimising the risks that they face that they will not be able to meet reliable supply objectives without jeopardising financial performance targets, and partly also out the knowledge that higher allowed expenditure levels translate into higher allowed revenues and thus better financial performance.

This arrangement has, in our opinion, led the NSPs to discover expenditure needs that they never thought they had. A review of the regulatory decisions reveals that NSPs have typically gone to great effort through their own endeavours and also through the use of consultants, to develop "ambit" claims about the expenditure they propose for the regulatory control periods. The AER has formed a similar view.

Whatever the NSPs might say about this, there can be no doubt that the NSPs have a financial incentive to develop the highest possible forecasts that they think they can convince the regulator to accept, or to be more precise, that they think the regulator will be unable to satisfactorily disprove.

This regulatory design clearly places great importance on the regulator's ability to effectively deal with such ambit claims in order to protect the interests of consumers.

Approaches to the regulatory assessment of a firm's expenditure application

We describe approaches to the regulator's assessment of a firm's expenditure proposals under two broad classifications: forensic approaches and comparative approaches. We use the term "comparative approaches" as a general term to describe the use of systematic comparisons as the basis for the determination of expenditure allowances. "Benchmarking" which can take many forms but which is often associated with specific statistical or econometric methodologies is one comparative approach.

Forensic approaches

Forensic assessment might otherwise be described as a "bottom-up" assessment of efficient expenditures. It is typically a "line-by-line" assessment of NSP expenditure proposals. Typically it is undertaken by engineers and associated experts. It may involve some level of systematic comparison (for example the cost of one transformer will be compared to another to decide the budget for expenditure on transformers). Indeed, much of the expenditure assessment by the engineers will typically reflect the opinion of the engineers and other cost experts, whose opinion will be informed by comparative assessments of different technologies and processes that may be formally referenced or may simply be based on the experience of the reviewers.

The main way to distinguish forensic approaches from comparative approaches (since both depend on comparisons of one form or another) is that forensic approaches typically do not involve the use of objective and systematic comparative analysis.

Forensic approaches have been the mainstay of expenditure assessment by the AER, and before it also by the ACCC and the jurisdictional economic regulators.

The main argument for forensic approaches is that they offer the potential for deep analysis into the factors that drive expenditure, and the expected costs of specific assets or processes. The main disadvantage of forensic approaches is that they promise more than they actually deliver, and this deception is inimical to the determination of expenditure allowances that are efficient. Specifically, for the vast bulk of expenditures that NSPs incur there is almost always a high level of uncertainty on the need for that expenditure and then on the universe of possible substitutes to and complements of that expenditure.

This uncertainty combined with the asymmetrical resource advantages in favour of the NSPs, relative to the regulator, means that forensic approaches can be expected to be, generally, to the benefit of the NSP at the expense of its captive consumers. Put simply, forensic approaches can be expected to systematically favour the NSP. This is because the regulator will invariably be in a weaker position than the NSP in assessing the merits of all the many expenditures that the NSP proposes for the many assets and processes it says that it requires to meet its objectives.

Furthermore, it is difficult to identify the flaws in a forensic assessment. But we can be very confident that forensic approaches, however sophisticated and rigorous they might appear to be, will not be accurate. If this were not the case, the forensic approach could be relied upon to predict the efficient level of expenditure. Despite NSP's insistence that forensic analysis is to be preferred, if it was as infallible as NSPs argue it is, then we might do away altogether with our system of incentive based regulation in favour of the regulator's determination of the efficient level of expenditure based on its forensic assessment. In this case whatever level of expenditure the NSP actually delivers would, by definition, be wrong unless it was equivalent to the regulator's forensic assessment. Neither the NSPs, nor the regulator, nor consumers would ever plausibly make such claims, and by this is demonstrated the fallibility of forensic assessments.

Comparative approaches

Comparative approaches rely on some form of systematic comparative methodology to determine the relative efficiency of one NSP compared to another. Typically such approaches focus not on total expenditure, but on small sub-sets of expenditure such

as operating expenditure or capital expenditure, or even on sub-sets of capitalised expenditure such as “augmentation” expenditure or “asset replacement” expenditure. It might even focus on smaller subsets of expenditure such as on categories of assets (such as transformers) or processes (such as procurement).

In our opinion, the main argument for comparative approaches – particularly when applied to higher level expenditure assessments such as total expenditure or operating expenditure and capital expenditure – is that it offers the prospect of rising above a narrow focus on detailed expenditure claims. It also allows the regulator to use the knowledge of the demonstrated expenditure outcomes of a variety of firms, to determine their relative efficiency. If done well, such comparative assessment also offers the potential for greater objectivity – where the relationship between expenditure and outputs is revealed through the application of an objective methodology - rather than through the assessment or judgements of experts, which inevitably are prone to error, bias and subjectivity.

We recognise that such comparative assessments also have shortfalls. The comparisons might not be done to an adequate level of rigour, and could be influenced by the quality of the analysis in ways that may not be obvious. Furthermore, there are methodological challenges in any comparative methodology. A particular problem is how, if it all, comparisons should take account of differences between firms such as in their operating environments, lumpy investments, differences in business models, ownership constraints, size, technology endowments and so on.

The resolution of many of these differences involve policy judgements: whether a factor is exogenous or endogenous can be difficult to assess with certainty. For example, whether consumers or shareholders should bear the consequence of inefficiencies attributable to diseconomies of scale needs to also reflect political and related constraints on ownership and control.

Furthermore, the weaknesses associated with comparative approaches are often quite easy to see. It can be easy to disparage a comparative assessment for having failed to adequately take account of specific differences in operating environments, business models, ownership constraints, size, technology endowments and so on. On the other hand, such differences can sometimes be exaggerated in their importance and can be used to undermine perfectly reasonable benchmarking. For example, the level of precision sometimes called for can detract from the power of benchmarking and can have a level of accuracy ascribed to it that does not exist in any element of the regulatory determination process.

Dealing with such criticism can lead to ever greater detail, more data and progressively narrower comparative assessments. This ultimately undermines the main advantages of systematic comparative assessments. We have attached in Appendix A to this submission a cost allocation matrix that Bruce Mountain developed in partnership with Brian Nuttall in a 2005 consultancy assignment for the Australian Energy Regulator.

This matrix was developed in consultation with NSPs in New South Wales and Victoria and was intended to assist the AER in the development of comparative assessments of the expenditure outcomes and proposals of NSPs. Mr Mountain, our advisor, has advised us that he has sought and been granted consent by the AER and Brian Nuttall for the public release of this cost allocation matrix, as part of this submission.

Conclusions on the relative value of comparative assessment

In summary, our view is that the Productivity Commission cannot reasonably conclude on the merits of comparative approaches without also having regard to the strength and weakness of the alternative forensic assessment approaches.

On the basis of the discussion to this point, it should be clear that we do not propose comparative assessment as a panacea to the challenges of the determination of efficient expenditure allowances for NSPs. However, it offers the prospect of diminishing the asymmetry in favour of NSPs, that is intrinsic to forensic approaches. Given the privileged monopoly position of energy network businesses and the welfare diminishing behavior that monopolies can exhibit, this is important. It can also act as an important brake on the incentives on energy network monopolies to exaggerate their expenditure proposals.

Both forensic and comparative approaches have their strengths and weaknesses. In our opinion neither is *necessarily* better nor worse than the other, although we contend that forensic approaches are likely to systematically favour NSPs, rather than consumers. Furthermore, since it can be so much easier to see the difficulties associated with comparative approaches than to see the fallibility of forensic approaches, this has contributed to a biased preference for forensic approaches. Our main point of contention, seen in this light, is that the use of benchmarking has been almost totally absent from the AER's regulatory determinations to date and this has helped to bias regulatory decisions massively in favour of energy network monopolies.

Factors that affect the successful use of benchmarking in regulatory decisions

We would like to convey our views on the factors that affect the successful use of benchmarking in regulatory decisions. In our opinion, at least as much regard should be had to these factors as to the specification of the preferred comparative approaches and the consequential data needed to implement them. We have classified these factors under the headings of regulatory design and regulatory conduct.

Regulatory design

The "onus of proof" and the arrangements for the review of regulatory decisions are two regulatory design issues that we suggest are particularly important to the successful use of benchmarks in regulatory decisions.

Onus of proof

The National Electricity Rules reflects a "propose-respond" approach where NSPs propose the expenditure they require and the AER's task is to respond to that proposal. The Australian Competition Tribunal (ACT) in hearing an appeal by one of the distributors against an AER decision, provided a clear description of how the propose-respond model establishes the onus of proof. In particular, the ACT describe the operation of the proposed-respond model in the Rules as follows:

1. Distributors must provide expenditure forecasts in accordance with the National Electricity Objective as described by the three criteria in the Rules;

2. The AER must accept the distributor's forecast if it is satisfied that the total of the forecast reasonably reflects the three criteria;

3. It is not the AER's role to make a decision it considers best … the AER should be very slow to reject a distributor's proposal if it is backed by detailed, relevant independent expert advice because the AER, on an uninformed basis, takes a different view; and

4. The AER must not reject such a proposal merely because it has an expert opinion. The AER, based upon any expert advice, needs to make its own evaluation, an evaluation that is reviewable by the Tribunal. [10]

It should be clear from this that, under the Rules, the onus of proof lies with the AER to prove NSPs wrong. We think it is reasonable to argue that this mitigates against the AER's application of benchmarks to set expenditure. For example, if a distributor proposes an expenditure allowance for the number and type of padlocks it needs to secure its substations, then arguably the AER's task is to review that claim in the way it has been presented. This would mean a forensic assessment of the distributor's claim. In other words the AER would need to come to a view on the number and type of padlocks needed and then cost it to decide the expenditure allowance.

The alternative, comparative assessment approach, would entail the AER taking a higher level perspective on efficient expenditure, assuming that distributors can be expected to make business judgements about the security of their facilities (amongst many other things), that such security can be achieved in a variety of ways, that they have choices about what best to spend their money on and that expenditure related to providing security can be accounted for in different ways. Then the regulator would compare higher aggregations of expenditure – such as opex or capex in total – to assess the appropriate allowance for expenditure on many outputs, a small part of which would be the provision of security for the facilities the distributor operates.

As this discussion illustrates, the onus of proof established through the propose-respond model mitigates against the use of a comparative assessment and instead imposes on the AER the requirement to place greater weight on a forensic assessment of a distributor's proposal. This is also exactly what suits the network business as it is in possession of the detailed knowledge which the regulator cannot hope to replicate.

As such, we suggest that a meaningful implementation of comparative approaches will be greatly aided by changes to the Rules to reverse the onus of proof and thereby allow the AER the flexibility that it requires in order to use benchmarks to help set expenditure allowances.

The AER has proposed to reverse the onus of proof in its package of proposed rule changes that are currently being assessed by the AEMC. We have supported the AER's proposals. We commend this issue to the Productivity Commission's attention in its consideration of the scope for benchmarking.

[10] Australian Competition Tribunal, 2009. "ACompT 8", paragraph 190.

Merits review

The arrangements for the review of AER decisions will also affect the extent to which the AER will be able to make use of comparative approaches. We contend that the current arrangements allow an NSP to "cherry pick" those aspects of the AER's decisions that it does not like. We have noted the recent report by Professor Alan Fels, commissioned by the Energy Networks Association that concluded that the claim of cherry-picking is incorrect and lacking in rigour.

We disagree with Professor Fels. His conclusion rests on the observation that the AER has a right to raise additional matters if a decision is appealed to the Australian Competition Tribunal (and therefore that NSP's can't cherry-pick AER decisions, because the AER can raise other matters in response). We think Professor Fels' analysis is flawed: in what sense can it be realistic to expect the AER to ask the Tribunal to review a decision is has just made, as a response to an NSP's application for review of some other aspect of the AER's decision. Such 'tit-for-tat' would undermine the regulator's credibility (it would be asking the Tribunal to review a decision it had just made, and which it had previously defended as the right decision). How could a regulator that asks for its determinations to be reviewed shortly after it had been made, be trusted? Clearly the provisions in the National Electricity Law for the AER to raise additional matters do not undermine the NSPs' ability to cherry-pick AER decisions.

The opportunity to "cherry-pick" the AER's decisions, combined with the onus of proof on the AER to prove the NSP's proposals wrong, further reinforces the obligation on the AER to adopt forensic approaches. This is because the threat of appeal on individual elements of its decision can be expected to encourage the AER to place greater reliance on forensic assessments, since these might be more difficult to discredit than comparative assessments. We commend the current design of the arrangements for the appeal of AER decisions, to the Productivity Commission's attention in the context of this inquiry as it is closely linked to the issue of benchmarking and the quality of regulatory outcomes.

Regulatory conduct

There are several aspects of the AER's conduct that we suggest will impact the effectiveness of comparative approaches in setting efficient expenditure allowances. We draw these to the Productivity Commission's attention to emphasise the importance of institutional arrangements in the successful use of comparative approaches.

Appropriate level of rigour

It is hard to argue against the merits of greater rigour in any regulatory assessment. However in developing comparative analyses, we suggest that the relevant issue is the *appropriate* level of rigour. In comparative assessments it can be expected that NSPs will demand ever-greater specificity of the particular circumstances of their own operations as a way to explain apparently unfavourable comparisons. Such demands for greater specificity will typically be characterised as demands for rigour or a better understanding of the business.[11]

[11] It is useful to note that the NSPs have been calling for more resources for the regulator in the context of the current debate about economic regulation of energy networks. This can be seen, for example, in their submissions to the AEMC on the AER's rule change proposals.

However, such demands for greater specificity are invariably one-sided and may ultimately result in less representative or accurate comparisons. For example, a distributor that operates in an area of lower customer density might demand that the regulator adjusts for this in comparisons with distributors that operate mainly in metropolitan areas. But such distributors might be expected to be somewhat more recalcitrant in pointing out other factors that are comparatively beneficial to them (such as the use of cheaper single wire earth return networks or inexpensive easements). The relevant issue is therefore the appropriate level of rigour – a trade-off that recognises greater specificity can reduce not improve the quality of comparison.

Recognition of fallibility of forensic approaches

The discussion earlier noted that the forensic approaches promise a lot but their weaknesses are deceptive. Unless the regulator recognises this, it will be more strongly inclined towards forensic approaches, at the expense of greater reliance on comparative approaches.

The need for economic, rather than legalistic mindsets

The description by the Australian Competition Tribunal, cited earlier, of the AER's task in the review of an NSP's expenditure proposal is indicative of a legalistic, process-oriented mindset that we suggest is anathema to the development and implementation of comparative approaches. We think it is essential that the AER identify its task as one rooted in economics, mindful of the incentives on NSPs, and aware of the information asymmetries. Unless the economic mindset dominates (eg the application of powerful incentives on network firms to be more efficient), we envisage that comparative approaches will achieve little traction, regardless of the obligations on the AER in the Rules.

Determination and independence

We have found that network service providers are typically highly supportive of comparative assessments in principle. But invariably their support is conditional on adjustment of any comparison for the specific factors that they claim affect the efficient costs of their operation. As discussed, they can be expected only to draw attention to the factors in the comparison that are adverse, not those that are favourable. The AER needs to have the determination and independence to stand its ground against these inevitable criticisms. If it is not able to do this, comparative approaches will be undermined.

Part 2: Interconnectors

The Productivity Commission has been asked to assess whether the current regulatory regime, as applied to interconnectors, is delivering efficient levels of network and generation investment across the NEM.

EUAA Views

In our opinion interconnector augmentation is justified if it allows for the dispatch of lower cost generation across the NEM and the total cost of energy produced (and delivered) is lowered as a result.

We also think that regard should be had to the potential for interconnector augmentation to improve competition, particularly in markets on the import side of the interconnector.

In previous debates on interconnector development, such price effects are often dismissed as "wealth transfers", not economic gains. We think this is generally too simplistic as it ignores the impact of limiting market power on the longer-term dynamic efficiency of electricity production.

However, the calculation of the benefits and costs of interconnector development – relying as it does on uncertain future outcomes - is inherently uncertain. Despite much effort by regulators and the industry to develop ever more accurate cost/benefit (regulatory) tests, we see little merit in such tests in resolving the intrinsic uncertainty or providing a calculation of net benefits than can be accepted by all parties.

In this context assessing arguments for and against greater interconnection should always be mindful of the interests of the various stakeholders in their positions on whether to promote or oppose interconnector expansion.

The EUAA has participated in the many long (and so far inconclusive) debates on transmission access arrangements and interconnector development, since the start of the National Electricity Market. In these debates we have noted a consistent policy position of the Commonwealth Government in favour of greater interconnection.

Our assessment is that the views on interconnector development of jurisdictional governments (and their transmission network service providers) often reflect their desire to promote the best interests of the generators that they own.

As regards the view of energy users, those in importing jurisdictions have often been in favour of greater interconnection, while those in predominantly exporting regions have been less enthusiastic.

Generators have often positioned themselves on interconnector development arguments depending on their perspective of their best commercial interests – which for some has reflected a desire to expand their markets and trade through greater interconnection, and for others has reflected a wish to oppose interconnector development to protect their own markets and trade from greater competition.

In other words, stakeholders have pursued their conception of their best interests in opposing or supporting interconnector development, as the case may be.

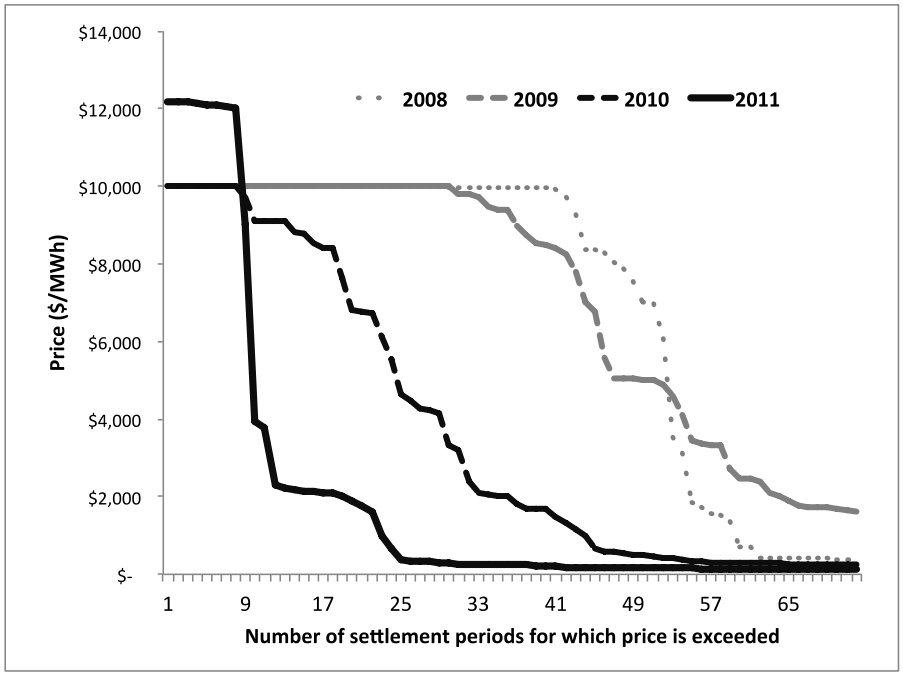
While interconnector development – and the development of a "truly national" NEM has been a perennial topic, evidence of a problem – specifically of under-investment in network augmentation – has generally been sparse. Even the Energy Reform Implementation Group report in 2006 and the Parer Report in 2002 produced little evidence to support recommendations for greater interconnection, although they generally supported it.

We do not seek to criticise these reviews, or more generally claim that there is not a problem to be solved, but rather to point out that it is difficult to be certain that there is a problem to be solved through greater interconnection. Significant and sustained price differences between NEM regions are not, in our view, necessarily indicative of insufficient interconnection. There might be many reasons for high prices in individual NEM regions, such as the exercise of market power, market design features, inadequate demand-side participation, poor price signalling to consumers, amongst other factors. Significant price differentials between NEM regions might be more efficiently dealt with through changes in these areas, than through greater interconnection.

South Australian Case Study

In developing this submission we have briefly analysed the situation in South Australia, focussing particularly on the period 2008 to 2010 when South Australia experienced sustained periods of extremely high prices. This is shown in the price duration curves in Figure 1. The outcomes in 2008 and 2009 were particularly extreme, although 2010 and 2011 also had remarkably high prices.

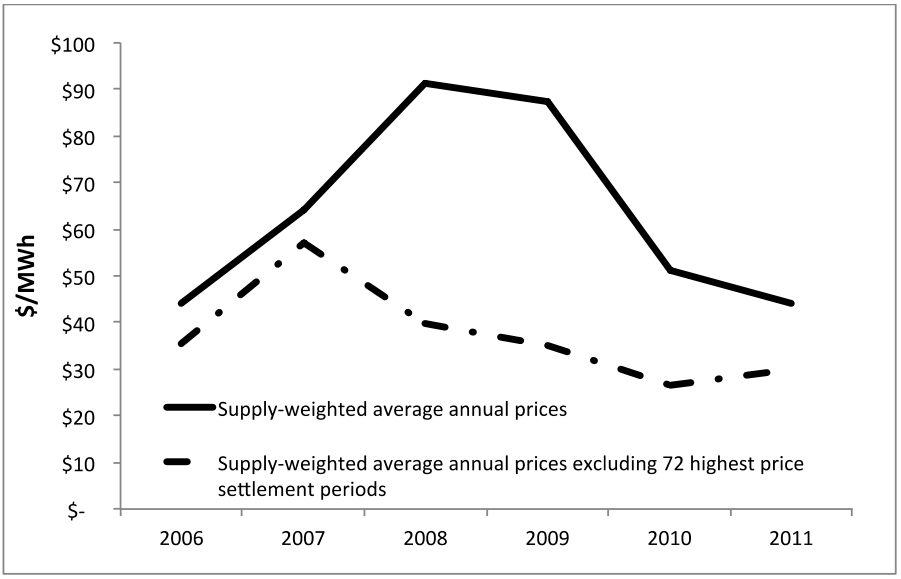
Figure 1. South Australian spot price duration curves



These extreme price periods had a remarkable impact on average annual spot prices. This is shown in Figure 2 below which compares the supply-weighted average annual prices including and excluding the 72 highest price half-hourly settlement periods in each year. As the figures show, the impact of the extreme price events in 2008 and

2009 more than doubled the overall annual average price from what it otherwise would have been. In 2010 it was around 80% higher and in 2011 it was around 35% higher.

Figure 2. Impact of highest 72 settlement periods on average annual spot prices in South Australia



In this context the question can be put: what role did the interconnectors between Victoria and South Australia play in such extraordinary outcomes? These interconnectors (the Heywood AC interconnector plus the Murraylink DC interconnector) had maximum annual transfer capacities from 2005 to 2011 as shown in Table 1.

Table 1. Maximum annual transfer capacities on South Australian interconnectors

MAXIMA (MW)	Vic to SA	SA to Vic
2005	680	-414
2006	680	-420
2007	665	-420
2008	586	-420
2009	632	-420
2010	642	-455
2011	655	-580

This maximum capacity compares to simultaneous maximum demand in South Australia of around 3, 300 MW, so that peak interconnector capacity, importing to South Australia, is around 20% of the peak demand.

Figure 3 below shows that the average share of the electricity supplied through the interconnector, during the 72 highest price half-hourly settlement periods from 2008 to 2010, was around 10%.

Figure 3. Market share of South Australian generation and imports in highest priced 72 settlement periods

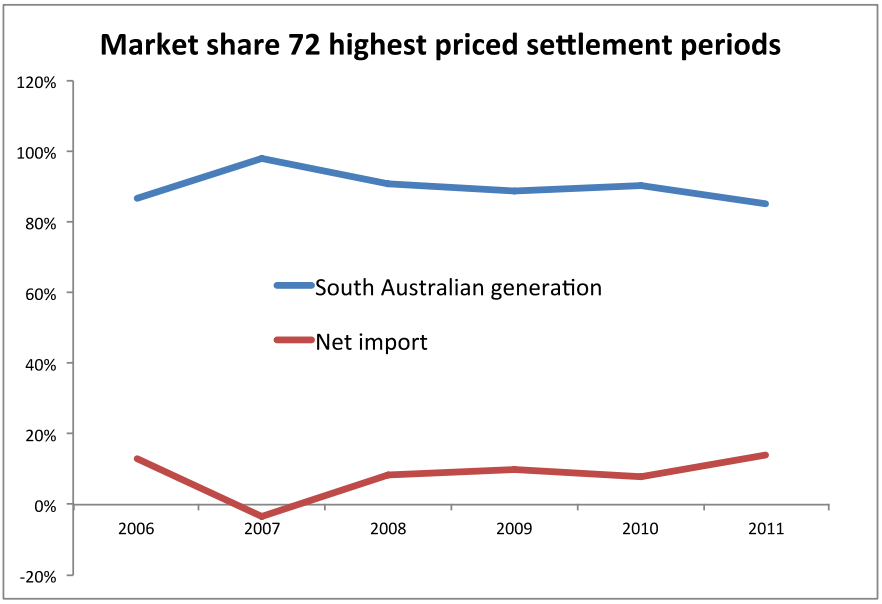
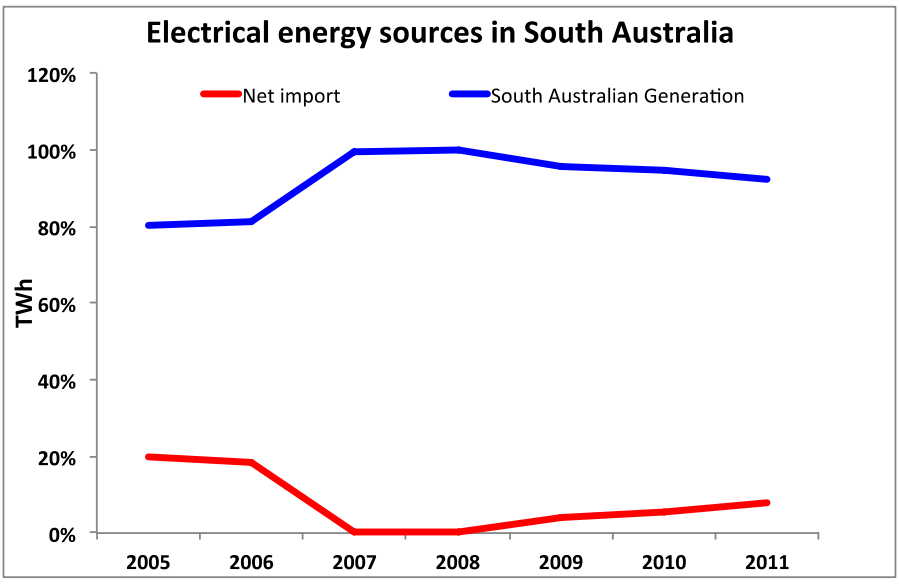


Figure 4 compares the aggregate annual share of the electricity consumed in South Australia (as supplied by the NEM) from net imports over the interconnector (imports from Victoria less exports to Victoria) compared to electricity produced in South Australia. It shows that up to 2006, the interconnector supplied around 20% of South Australia's electricity, but since then it has ranged between almost no share and a 5% share, although gradually increasing since 2007.

Figure 4. Market share of South Australian generation and imports into South Australia from Victoria



The information in Figures 3 and 4 can be analysed further to compare the utilisation (capacity factor) of the interconnectors on average over the year and also during the highest price 72 settlement periods in each year. This is shown in Table 2.

Table 2. Interconnector capacity factors

Capacity factor in highest 72 settlement periods	Vic to SA	SA to Vic	Average annual capacity factor	Vic to SA	SA to Vic
2005	39%	33%	**2005**	41%	2%
2006	46%	2%	**2006**	40%	3%
2007	8%	33%	**2007**	13%	19%
2008	54%	4%	**2008**	14%	18%
2009	52%	6%	**2009**	20%	16%
2010	41%	8%	**2010**	23%	14%
2011	55%	4%	**2011**	27%	11%
AVERAGE	42%	13%	**AVERAGE**	25%	12%

The data in Table 2 shows that the average annual utilisation of the interconnector when exporting from South Australia is approximately the same (at 12-13%) during both the highest priced 72 settlement periods in South Australia, as well as on average over the year.

On the other hand, during the highest priced 72 settlement periods, the interconnector utilisation was about 65% higher (at around 42% on average from 2005 to 2011) compared to the average annual utilisation (at around 25%). This confirms that when prices were extremely high in South Australia, around 65% more energy was drawn into South Australia from Victoria, than was the case on average.

However, even during the extreme years of 2008 and 2009 (during which the highest 72 half-hourly settlement prices in South Australia were never less than $376/MWh, and averaged $7,180/MWh) the interconnector was still only achieving a utilisation that is a little over half its peak annual transfer capacity. Perhaps this was because of co-incidentally high prices in Victoria (and hence effectively the interconnector was unconstrained at these times) or perhaps it was because there was some constraint that affected the ability of the interconnector to operate at close to its annual capacity.

If the former, then there can be no case for interconnector augmentation (it is already unconstrained and expanding it would serve no useful purpose it would seem).

If the latter, the relevant question is what it might cost to augment interconnector capacity and what impact such augmentation might have on prices in South Australia. To get a sense of the possible answer to this question we examined the production of electricity from all the various NEM-connected and dispatched generating plant in South Australia (two brown-coal generators, the gas-thermal generating complex, the two combined cycle gas generators, the five open cycle gas generators and the 15 wind farms).

Analysis that we intend to publish later this year, found that at the times of extreme prices there was, in fact, surplus capacity and that the extreme high prices consistently coincided with substantial amounts of generation capacity that had either been withheld from the spot market altogether, or had been made available to the spot market at prices close to the market price limit.

In this context, the case for expansion of the interconnector is not to meet capacity shortfalls in South Australia, but to reduce the ability of South Australian generators to exercise market power by, effectively, withholding capacity. With such extreme prices in the highest priced 72 settlement periods (and by implication substantial benefits if they can be reduced to more normal levels) the argument for interconnector expansion might be considered to be strong.

However, more would need to be done to substantiate this conclusion: how much would the interconnector need to be expanded to effectively diminish the ability to exercise market power, and how much would this cost? Is spare capacity available in Victoria or would the expansion of the interconnector simply "export" South Australia's high prices into Victoria? Would it be more economical, and a better allocation of investment risk to encourage OCGT expansion and expansion of demand-side response in South Australia, rather than by expanding the interconnector? Could the extreme outcomes in South Australia be dealt with by changes to the design of the electricity market, or even more simply through much lower Market Price Cap?

We do not have full answers to these questions, but we suggest that they are questions that the Productivity Commission should explore in assessing the case for interconnector augmentation.

We note that encouraging the expansion of network monopolies – whose costs and risk users bear directly through regulated charges – should ensure that costs do not exceed benefits or consider possibioiites for introducing competition by or for the field. We also note that it might be better to try to exhaust any possibilities that exist in improvements to the design of the NEM, better reflection of spot prices in the tariffs paid by end users and encouraging demand-side participation in the energy market before considering interconnector expansion.

APPENDIX A: COST ALLOCATION MATRIX

	New network			Network replacement			Maintenance			Network operations			TOTALS		
		Expensed	*Capitalised*		*Expensed*	*Capitalised*		*Expensed*	*Capitalised*		*Expensed*	*Capitalised*	*Expensed*	*Capitalised*	
Demand Growth	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Demand Growth**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Customer connection	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Customer connection**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Deterioration due to age	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Deterioration due to age**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Stochastic factors	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Stochastic factors**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Compliance	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Compliance**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Recoverable works	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Recoverable works**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
New technology	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **New technology**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
Day to day network operation	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	Employee expenditure		$ -	$ -	$ -	Employee expenditure
	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	Contractor expenditure		$ -	$ -	$ -	Contractor expenditure
	Materials		$ -	Materials		$ -	Materials		$ -	Materials		$ -	$ -	$ -	Materials **Day to day network operation**
	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	Direct overheads		$ -	$ -	$ -	Direct overheads
	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	Indirect overheads		$ -	$ -	$ -	Indirect overheads
TOTALS		$	$		$	$		$	$		$	$	$	$	
		Expensed	*Capitalised*		*Expensed*	*Capitalised*		*Expensed*	*Capitalised*		*Expensed*	*Capitalised*	*Expensed*	*Capitalised*	