10 May 2013

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Dear Chris

Submission on expenditure incentives

The Energy Users' Association of Australia is pleased to have the opportunity to submit its views on the AER's Expenditure Incentives Issues Paper.

To inform our Association's perspectives on this important issue we commissioned advice from CME, which we have attached to this letter.

We would be pleased to discuss this further should the AER wish.

Yours sincerely,

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Advice to the Energy Users Association of Australia on regulatory incentive design

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May 2013

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1 Introduction

The Energy Users Association of Australia (EUAA) is participating in the consultation on the AER's guidelines. One of the issues under discussion is the design of efficiency incentives for capital and operating expenditure. This is an important issue and the AER's approach in this area can be expected, over time, to have a significant impact on electricity prices.

We have been asked to advise the EUAA on the appropriate design of incentives, for the purpose of its submission to the AER. This document has been written pursuant to that request.

The first section examines whether there is an incentive problem that justifies changes to the incentive design that the AER (and jurisdictional regulators) have used to-date. The second section examines the evidence and argument on the relationship between incentives and ownership. The last section draws out the implications for the design of incentives.

2 Is there a regulatory incentive problem?

Over the last four years there has been some debate over outcomes in the regulation of monopoly network service providers. The suggestion has been put that endogenous factors (flaws in the design and conduct of regulation) rather than exogenous factors (demand growth, asset ageing, planning standards) has been a large part of the problem (see (Mountain and Littlechild 2010; Mountain 2011; Mountain 2012). This evidence was contested by the Energy Networks Association (see (Energy Networks Association 2012)) who contended on the advice of their consultants, NERA, that there was no significant flaw in the conduct and design of regulation and that the analysis in Mountain and Littlechild (2010) and Mountain (2011) was flawed.

These contrasting views were assessed by the Productivity Commission, the Australian Energy Markets Commission, the Limited Merits Review and in Queensland by the Independent Review Panel. All of these institutions and reviews have accepted the main conclusions in Mountain and Littlechild (2010) and Mountain (2011) (see (Productivity Commission 2012a), (Australian Energy Market Commission 2012)97, (Independent Review Panel 2012; Yarrow, Egan et al. 2012). In this sense, some of the more controversial issues in the debate seem to be settled, and consequentially discussion (and action) has moved to finding ways to address the problems. The AER's "Better Regulation" program is one such action. For their part, individual state governments (NSW, QLD and TAS) have started to make substantial changes to the structure, governance and executive leadership of their network service providers.

The design of incentives in NSP regulatory controls – although not so far a major feature of the broader NSP debate – is an important part of the explanation of outcomes that have been delivered. Capital expenditure has exceeded the ACCC's allowances for transmission network service providers (NSPs) (Powerlink in its first regulatory control period, TransGrid and Electranet in the second). The problem has been much worse in regulatory controls for distribution network service providers set by IPART and QCA in New South Wales and Queensland respectively. In particular all the distribution network service providers in these states substantially overspent their capex allowances in the period up to the current regulatory control (which the AER has determined).

"Overspend" is not (obviously) necessarily evidence of a problem per se. Spending more than the regulatory allowance could possibly be an efficient response to changed circumstances. But it is difficult to conclude that this is the case. The evidence cited above, now widely accepted, is that exogenous factors (demand growth, ageing assets etc.) do not justify the observed expenditure. The distributors that exceeded their allowed capital expenditure suffered inconsequential losses through their regulatory controls (in some cases they forfeited just the regulated return on the overspend during the years of the regulatory control period). They now have a substantially larger regulatory asset base that is providing regulated returns to their government owners, that far exceeds the cost of capital supplied by the governments. Energy users are bearing the cost of this.

The impact of the "overspend" extends also to the determination of subsequent regulatory allowances. It would be naïve to imagine that when the Queensland and New South Wales distributors presented evidence to the AER of spending substantially above the regulatory allowances determined in the regulatory controls set by their jurisdictional regulators, that the AER was not thereby persuaded to provide substantially higher capital expenditure allowances. While we understand that distributors in New South Wales, Queensland and Tasmania are likely now to underspend their AER regulatory allowances, possibly significantly so, energy users are currently bearing the depreciation and return associated with capital expenditure allowances that are substantially higher than they need to be.

We therefore conclude that there is a substantive incentive design issue that merits a determined and decisive response in the regulatory incentives to be set out in the AER's guidelines. The AER's issues paper suggests that no account should be taken of ownership differences in the choice of incentives, and has proposed only a slight strengthening of the incentives currently applied. We think both are mistakes. We dedicate the next section to surveying the evidence and argument in support of our views, and the last section to drawing out the implications for incentive design.

3 Incentives and ownership

3.1 The general proposition and its evidence

Ownership matters in designing incentives. In their seminal text, "*Privatisation: An economic analysis*" Professors Vickers and Yarrow (Vickers and Yarrow 1988) conclude:

"For publicly owned firms the task of monitoring managerial performance is entrusted to government. Compared with private ownership, the most obvious differences in the relationships between managers and their immediate principals arise from the facts that (a) the principals do not typically seek to maximise profits , (b) there are no marketable ordinary shares in the firm, and hence no market for corporate control, and (c) there is no direct equivalent to the bankruptcy constraint on financial performance. … Given the incentive problems associated with the control of publicly owned firms, it is likely that public monitoring systems are generally less effective than their private counterparts"

A decade later, in a reference text covering similar ground "*Privatisation, restructuring and regulation of network utilities*" (see (Newbery 2000)) Professor Newbery said:

"*Ownership affects the ability to control the behaviour of the utility, so the objectives of the owner matter*"

A decade later again, Professor Littlechild, in the context of a paper on outcomes in Australia (Mountain and Littlechild 2010) said:

"*Government-owned companies, while not indifferent to profit, can be expected to place greater weight on non-pecuniary pressures (including from consumers, employees, suppliers, politicians, government and the media). This is likely to make them more cautious about cutting manpower and other costs, and more sympathetic to increasing capital expenditure."*

These propositions are evidently well established in theory and as set out below are (now) also well accepted by Australian institutions and reviews. For example in 2012, Mr John Pierce, Chairman of the Australian Energy Markets Commission said (see (Robins and Manning 2012)):

"*If you're state-owned you cannot replicate the disciplines of real equity markets or real capital markets on the performance of management,*"

Similarly the Review of the Limited Merits Review (see (Yarrow, Egan et al. 2012)) noted:

"… the regulatory system which is applied in the Australian energy sector is one that was principally designed for firms under private ownership, not public ownership, and that can be expected to be more effective (i.e. be capable of delivering more benefit to consumers) when applied to privately owned utilities. This is confirmed by some of the evidence that the Panel has seen which suggests (albeit in a fairly general way) that there appears to have been systematic

differences in the way that publicly owned and privately owned NSPs have responded to similar revenue determinations (and hence to similar, regulatory-determined influences on incentive structures).

These differences in the responses of publicly and privately owned NSPs are fully to be expected, since the overall incentive structures of NSPs are jointly determined by a range of influences, of which those aspects of incentives determined by the regulator are just one sub- set. For example, the requirements/preferences of owners or their agents, and the pressures placed on NSPs to meet those requirements/pressures, also contribute to the overall incentive structure, and in this context we note that the requirements/preferences that emerge from the governance structures of publicly owned NSPs tend to be relatively complex compared with those of their privately owned counterparts, for whom the emphasis is principally on financial returns. Given that some of these objectives are public/political in nature, there can be overlaps with regulatory functions, as well as the volatility/instability associated with changing political priorities."

Professor Tom Parry, current Chairman of the Australian Energy Market Operator and previously Chairman of the Independent Pricing and Regulatory Tribunal of New South Wales has said (see (Parry 2011) :

"… But, most important, the fundamental role of incentives appears to be missing from regulation today. The regulator doesn't appear to accept that a business will drive all of its costs, including efficient financing costs, so that customers can share in those benefits. And some of the businesses, notably the government-owned businesses, are not demonstrating the same governance drivers that gives the regulator confidence that the incentive model will work. For incentive regulation to work, the owners and management of the regulated network need to actively seek out every opportunity to drive efficiency in all the costs of the businesses. Whether all of the government-owned businesses in NSW and Queensland (and Western Australia) have the same drivers that we saw in the 1990s and early 2000s is starting to be questioned."

In its Draft Decision on the Review of Regulatory Networks, the Productivity Commission has concluded (see (Productivity Commission 2012a)):

"While governments have a legitimate role in owning and operating many services in Australia, the rationale for state-ownership of electricity network businesses no longer holds. This reflects the development of sophisticated incentive regulations that function best when the regulated businesses have strong profit motives. State ownership produces perverse interactions with the existing Rules, which are likely to lead to overinvestment and ineffective cost controls. State ownership produces perverse interactions with the existing Rules, which are likely to lead to overinvestment and ineffective cost controls. State governments often impose multiple constraints on state-owned corporations that are incompatible with their central purpose of maximising returns to their shareholders.

The regulatory incentive arrangements for the NEM were designed to encourage cost minimisation by profit-maximising businesses. The implicit assumption was that corporatised state-owned businesses resembled private entities and that they would behave the same way. That does not appear to have occurred.

Notwithstanding the removal of state-owned electricity network businesses from direct government control, as shareholders, governments still have mixed incentives. They have

imposed a range of non-commercial objectives on their businesses. These increase the costs of those businesses and, in some cases, send mixed messages to managers about their priorities."

In summary this evidence shows that the general proposition that ownership matters in understanding incentives is well accepted by the leading academics (Vickers, Newbery, Yarrow and Littlechild) and now also by Australian institutions and individuals (the AEMC, Productivity Commission, Professor Tom Parry amongst others).

3.2 Australia-specific regulatory arrangements

In their books Vickers, Yarrow and Newbery caution against simplistic conclusions on the relationship between ownership and incentive, and they raise specifically the impact of the relevant institutional environment including the framework of regulation. In this regard, the unusual assumption in the regulatory model adopted in the NEM - that government-owned NSPs are privately owned - merits examination in understanding the relationship between incentive and ownership.

The corporatised government-owned NSPs provide income taxes to their state government owners, and also "competitive neutrality" fees on treasury-provided debt. The Australian regulatory design (as implemented to-date) ignores these since it assumes that government-owned NSPs are privately owned. This is an additional important distortion that should be considered in the design of the capex regulatory incentive. The rest of this sub-section examines this.

Mountain and Littlechild (2010) suggested that "*a government that is also an investor, as the owner of a regulated company, and as the recipient of its tax revenues, has an additional (financial) interest in the profitability of that company*".

They suggested that "*it is more receptive to a regulatory framework that continues to provide such revenue streams. It also has a financial interest in limiting the extent of regulatory power and discretion and how this is exercised, especially with respect to the severity of the price control*".

Expanding on this, (Mountain 2011) suggested "*If distributors are able to obtain profits above their cost of capital by expanding their regulated asset base, they can be expected to want to do this. Government-owned distributors have access to inexpensive capital through their state treasuries, and in addition these treasuries receive the dividends and the income tax on the profits that the distributors deliver. This provides a powerful incentive for government-owned distributors to favour an expansion of their regulated assets.*"

This proposition has found resonance by other respected commentators. Professor King notes (see (King 2012)):

"In Australia most of our regulated infrastructure firms are government-owned. But we insist on pretending that they are not. This approach, sometimes called 'competitive neutrality', makes no sense. Competitive neutrality may be sensible if government businesses are competing with private firms. But in that case we don't need regulation. If we are regulating an infrastructure provider it is because competition is not feasible. And if it is a government-owned infrastructure provider we should treat it like a government-owned infrastructure provider. We don't. The area

of Australian regulation crying out for more research is the regulation of government business enterprises. Is this regulation really a question of optimal taxation? After all, the profit from the government-owned business is simply government revenue – just like tax revenue. How do we deal with the situation where tax payers are the shareholders? And what are the implications when the same taxpayers are the main consumers of the relevant final goods and services? Surprisingly, after almost 20 years of regulating government-owned enterprises in Australia, these questions are largely unanswered. And that is a significant problem. "

Similarly Professor Garnaut strongly endorsed the concern (see (Garnaut Climate Change Review 2011):

"For state owned network service providers, there is an unfortunate confluence of incentives that may be leading to significant over investment and gold plating of network infrastructure. As discussed earlier, state government owners may have an incentive to over invest because of the low cost of borrowing and tax allowance arrangements. In addition, political concerns about reliability of the network, about the ramifications of any failures, may further reinforce these incentives. The existing financial incentives for state owned network providers to over invest coupled with the political cost of any failure in the network managed by a state owned company, have the potential to overwhelm any countervailing incentives to minimise operational costs."

Likewise, AMP Capital – a significant investor in Australian regulated infrastructure - has agreed (see (Amp Capital 2012)):

"It should be remembered that the basic regulatory model, used in both Australia and the United Kingdom, was developed in the United Kingdom in response to the privatisation of a large number of public utilities. However, it has been applied, without differentiation, to an Australian utility sector in which public and private ownership co-exist. Implicitly, therefore, the regulatory design assumes that investment incentives are the same under both public and private ownership. However … the incentive for capital investment appears to be much stronger under public ownership.

"Private sector owned utilities raise capital from both debt and equity markets, in a manner consistent with the assumptions underlying the regulatory model. They are, therefore, subject to all the capital market disciplines that this implies. … In contrast, Australian state owned utilities are not subject to the same capital disciplines as the private sector. For example, the state owned companies obtain an advantage from having access to cheaper debt."

"The NSW state government, for example, has a AAA credit rating. This provides an immediate arbitrage opportunity between the BBB- debt margins, upon which the regulated returns are based and the AAA margins that the state pays on its general purpose bonds."

"In addition, state owned utilities do not pay federal income tax. Rather, they pay a notional income tax to the state under the National Tax Equivalent Regime (NTER). This payment is generally of the same order of magnitude as dividend payments generated by the regulation process. That is, this payment by itself effectively doubles the states' return from the utilities and represents a major windfall to the states.

State governments therefore receive not only the regulated return on assets, but the debt arbitrage plus and the tax equivalent payments. They effectively are able to "triple dip" from their ownership of the electricity poles and wires businesses.

In addition, if externalities are ignored, the apparent financing cost of capital investment by state utilities is relatively low. Capital market disciplines effectively cap gearing in private sector-owned utilities to around 60% to 65%, broadly in line with regulatory expectations[5]. Any significant capital programme may well require an equity injection from shareholders. In contrast, benefiting from the state government debt guarantee, Ausgrid is geared to about 80%[6] .This means that the equity contribution for new capital expenditure is only half that assumed by the regulator and can usually be provided from the utility cash flows, before dividends. Coupled with the favourable tax treatment and the lower cost of debt, this means that the effective WACC for new capital programmes is about two thirds of the cost to the private sector.

Although a state government does not have day-to-day control of its utilities, it exerts shareholder control and can effectively influence behaviour by demanding higher levels of dividends. In the absence of effective capital rationing, management can meet these demands most easily by maximising the capital spend, rather than implementing the degree of operational reform that would be necessary in an private sector-owned utility. A strategy of maximising the RAB also has the advantage of "locking in" future returns, while an operator can only keep operational efficiency gains for five years under the regulatory arrangements."

While over-investment generates valuable long term cash flows for state governments, its consequences are damaging to the wider economy … "

In hindsight, over-investment by state-owned utilities seems to be an inevitable consequence of the failure to recognise how the difference in ownership structure impinges on corporate behaviour when setting up the original regulatory framework."

In summary, there is strong evidence and argument to conclude that the unusual approach in Australia of assuming that government-owned NSPs are privately owned provides additional incentive for government NSPs to favour capital expenditure. The next section draws out the implications of this for the design of the capital expenditure efficiency incentives.

4 Implications for incentive design

This section draws out the implications of the discussion in the previous sections for incentive design. It will be clear from those sections that the main incentive design issue is the specification of an incentive that is likely to discipline spending by government-owned NSPs. This is the main focus of this section. After dealing with this, we comment on some of the other incentive design questions that have been discussed in the AER's workshops and in the AER's Issues Paper.

As a preliminary issue before developing the discussion in this section, it is useful to clarify what is meant by the power of the incentive (i.e. the proportion of gains that arise when expenditure is less than the allowance that shareholders retain). The power of the incentive depends on the life of the asset, the actual cost of capital, the difference between the actual cost of capital and the allowed WACC, and the year in the regulatory period in which the expenditure occurs. Since all of these factors affect the power of the incentive, to ensure that the discussion on incentive power is appropriately informed it would be worthwhile ensuring that the power of the incentive is expressed in these parameters. This makes the discussion unavoidably more complex, but this is compensated for by the fact that it will be much better informed. In the rest of this section for the sake of brevity where we refer to the power of the incentive we are referring to an expected average power. Of course such an expected average power will depend on the parameters (asset life, year in the regulatory period, WACC – both actual and allowed) and so depends on assumptions of what these are.

What is the appropriate incentive power for government-owned NSPs?

Moving now to the substantive issues for this section, the two previous sections have made the case that:

- there is substantive evidence that spending above regulatory allowances has been a problem for government-owned service providers (and users are carrying the cost of it); and
- it is a generally accepted proposition that incentives should reflect ownership and that this is even more valid in the Australian situation where the regulatory regime assumes that state government-owned NSPs are privately owned and consequentially looks past the income that state governments derive from income taxes and debt fees.

It follows that there is a strong case to strengthen the power of the incentive to be applied particularly to spending that exceeds the regulatory capex allowance. The AER's current proposal is a sharing factor of around 30% (and this reflects the AER's assumption that the actual NSP WACC is the same as the AER's determined WACC).

On the basis of the evidence in the previous section we suggest that the actual WACC for government-owned NSPs is likely to be considerably lower than the allowed WACC - AMP Capital has suggested about two-thirds of the WACC of privately owned NSPs. This much lower effective WACC means that the AER's proposal of a 30% sharing

factor, translates to an effective penalty on overspend for government-owned NSPs of around 20%. While probably slightly stronger than the incentive in the original jurisdictional regulatory controls, this is still much too weak to constrain expenditure. We suggest a penalty on overspend of around 70% for government-owned NSPs. Using AMP's assumption of the effective WACC of government-owned NSPs, this therefore translates into an effective penalty (as valued by government-owned NSPs) of around 50%. We suggest that a sharing factor at this level is more likely to be an effective constraint on NSP expenditure.

The next issue to consider is whether there should be a symmetrical sharing of the benefits of under-spending the regulatory allowance as on over-spending. Some stakeholders have approached this issue on the basis that symmetry implies fairness. This has a superficial appeal, but we suggest is wrong in theory and practice. Setting the appropriate reward for under-spending regulatory allowances should reflect the willingness of NSPs to improve their profits by increasing efficiency. The proposition in the previous section was that the profit motive of government-owned NSPs is diminished by other, often contradictory, objectives and that the tax and debt fee income acts as in incentive to spend more not less. This leads to the conclusion that high-powered incentives would be needed to encourage government-owned NSPs to reduce expenditure below regulatory allowances.

But such high-powered incentives reduce the benefit that users gain from the efficiency improvement and there are diminishing returns. For example, if an incentive with a 70% power induced a $100m reduction in expenditure below allowances, then users only obtain a $30m share of this. By contrast if a 35% investor share in underspend induces a $50m efficiency improvement then users obtain a benefit of 65% of $50m = $32.5m. On balance we suggest the argument for a very high-powered incentives (70%) on expenditure reduction for government-owned NSPs is not convincing since it is not clear that the incremental saving that it is likely to deliver will represent value to users. We therefore suggest an appropriate power of incentive on underspend for government-owned NSPs of around 35%.

Should privately-owned service providers have the same powered incentives as government-owned service providers?

The logic and evidence in the previous section suggests privately-owned NSPs should be exposed to lower-powered incentives (because privately owned NSPs are likely to be more responsive to opportunities to improve their profits by beating expenditure allowances. As such they need less compensation to deliver efficiency improvements than government-owned NSPs (and likewise need a lesser penalty to induce them to guard against overspend). For privately-owned NSPs we broadly concur with the AER's current thinking of appropriate sharing factors, although think there is little harm done in strengthening incentives a little by, say, increasing the share in overspend to 50%, and increasing the share in underspend to around 35% might be more appropriate.

Should a constant-powered capex incentive be developed?

The AER is proposing a change to the capex incentive so that it provides a constant incentive to underspend in each year of the regulatory period. This idea seems to have

some popular support. The justification for the proposal is that the AER suggests that there is evidence that NSPs are back-loading capex (shifting expenditure to the later years) in order to improve their financial returns. This is sometimes colloquially referred to as "gaming the incentive".

The AER cites the Productivity Commission (Productivity Commission 2012a) and a joint NERA/PWC report to the Energy Networks Association (NERA and PWC (Australia) 2012) to support its view that some form of continuous incentive may be appropriate. What has the PC and NERA/PWC said and does their evidence and argument withstand scrutiny?

The evidence that the Productivity Commission (PC) has presented (and which is cited in the AER's report) is the percentage overspend for distribution network service providers for the last complete regulatory control period (in decision set by jurisdictional regulators). Their calculation is of the percentage difference (actual less forecast divided by actual). They derive an average which shows the average percentage roughly constant in the first three years of the regulatory period, but rising in the fourth and fifth years. From this they conclude that declining incentive power leads to inefficient intra-period expenditure deferral, and hence a constant powered incentive is warranted.

The PC has asked the right question – what does the actual data show – but their analysis is flawed and does not support their conclusion, for the following reasons:

1. Their data set is incomplete. It is just for distributors and just for one regulatory control period. The PC should have looked at transmission and distribution network service providers for all complete regulatory control period. The resulting data set would be four times larger than the data set they used.
2. The PC's analysis calculates percentages rather than dollars. Of itself this is not an insuperable problem, but rather than weighting their percentages, they have just calculated a simple average. This means that outliers can distort the result and lead to invalid conclusions. Indeed this is exactly what has happened. The data provided by the PC shows that spending by ActewAGL in year 5, and ETSA in years 4 and 5 have been outliers and this accounts for the rising average in years 4 and 5. ActewAGL is a minnow and ETSA, though not insignificant, has spent much less than any of the Queensland or NSW distributors and much less than the Victorian distributors (in aggregate). If the PC had developed a weighted average or used a median, rather than a simple average the curve would not have risen in years 4 and 5 as the PC has calculated.

Accordingly the PCs evidence – though asking the right question – does not provide evidence that the existing declining incentives have lead to systematic intra-period capex deferral.

Turning now to PWC and NERA, unlike the PC they have not examined the plentiful actual data to assess whether there is a problem, but instead they rely on their own conjectures on what constitutes appropriate incentive design. Their argument wraps together constant incentive power and symmetrical incentives. Specifically, they contend:

"There are three benefits from a symmetric capital expenditure incentive:

1. it allows for a constant incentive for efficiency to be provided;
2. it can facilitate a better balance of incentives between capital and operating expenditure; and
3. it can allow for a better alignment with service performance incentives."

In response to each of their points in turn:

Point 1. A symmetrical incentive does not allow for constant incentives for efficiency. Constant incentives for efficiency can arise whether or not the incentive power on underspend is the same as the incentive power on overspend. Symmetry and intra-period constancy are completely independent design variables, and an argument for symmetry does not imply an argument for constancy.

Point 2. Their point here seems to be that a symmetric (and constant) incentive already exists for opex and so unless there is a corresponding symmetric (and constant) incentive for capital expenditure, it is not possible for the incentives between operating and capital expenditure to be balanced. This is wrong for several reasons:

(a) It ignores the very significant difference in incentive power for capital assets of different ages – even if it can be argued that the *average* capex incentive power is the same as the opex incentive power, this says nothing about the incentive power on all the differently aged assets that make up the average, compared to the incentive power on opex reductions (for which age-specificity is not an issue because opex is expensed in the year it is incurred);

(b) it assumes that the firm will be motivated to achieve efficiencies based on the marginal incentive payment and so if it can make higher incentive payments by reducing capex than opex it will direct its efforts to reducing capex. This ignores the expense and effort that needs to be made to reduce opex or capex: If more effort (and expense) needs to be made to reduce one rather than the other, the firm can be expected to account for this in deciding where to focus its attention. Simply setting the power of the incentive on capex to be the same as on opex is no basis to conclude that firms will direct their efficiency efforts equally to both;

(c) it ignores the impact of differences in the allowed WACC and the actual WACC on incentives to capitalise expenditure. The previous section established that it is now widely accepted that government-owned NSPs have a lower effective cost of capital than their privately owned peers. This establishes a bias towards investment by government owned NSPs. Accounting for this, leaving all other factors the same, means that higher-powered incentives should be set for capex than opex in order to establish equivalence.

Point 3. Their argument is that a constant powered capex incentive "allows the regulator to better calibrate the balance of incentives so that such biases (for either more or less expenditure for improved service performance) do not exist or are minimised". This is empty assertion. Why should constant powered incentives "better calibrate the balance of incentives" but declining incentives not do this?

Accordingly we conclude the PWC/NERA advice to the ENA has provided no rationale for constant powered capex incentives.

To inform our advice in this area we have assessed the evidence of the actual capex compared to the allowed capex for all transmission and distribution network service providers in the NEM for all completed regulatory control periods, to assess whether there is any evidence of intra-period capex deferral. To do this assessment we have made the heroic calculation (in the same vein as the PC) of comparing actual and allowed capex – if actual is much above allowed towards the end of the regulatory period (RP), and much below at the start of the regulatory period then this is taken as evidence of intra-period deferral. The results of this examination are as follows:

Distribution:

NSW: RP1 - yes, RP2 - no.
QLD: RP1 - yes, RP2-no
Tas: RP1 - no, RP2 - no
SA: RP2 - yes (RP1 data not available)
Vic: RP1 - no, RP2 - yes

Transmission:

NSW: RP1 - no, RP2 - no
QLD: RP1 - no, RP2 - yes
VIC: RP1 - no, RP2 - no
SA: RP1 - yes, RP2 - yes
TAS: RP1 – possibly, RP2 – not yet complete.

It is clear from this that there is no compelling evidence of systematic intra-period capex deferral. This evidence, taken together with the absence of compelling argument in favour of constant powered capex incentives, leads us to conclude that the introduction of an incentive for constant powered capex incentives is not warranted. For completeness we note a few other reasons why a constant powered incentive on capex is problematic:

- It can result in inefficient capex deferral between regulatory periods. The AER has raised this concern in the past, and we think the AER is correct and that this concern seems particularly apposite in light of the evidence that some network service providers have sought to "double-dip" by deferring capital projects that were allowed in one period and then seeking compensation for the same projects in subsequent regulatory periods.
- Constant powered incentives do not address the more significant issue of differences in incentive power for assets of different lives. Indeed constant powered incentives exacerbates the problem in that it can result in incentive power of greater than 100% for capital that will be completely depreciated in the regulatory period in which it is incurred.
- Providing a constant incentive is likely to add significant additional complexity. There are much more significant incentive problems to be resolved and so dissipating effort and time on issues for which there is no compelling evidence of a problem should be avoided.

To the extent to which there is a concern about inefficient intra-period capex deferral (as seems to be the case in South Australia) there are other, simpler, ways that the AER might be able to deal with this. Specifically, the AER can anticipate this behavior in the determination of its expenditure allowances and adjust for this in the determination of the profile of annual capital expenditure during the regulatory period.

In summary, the AER is correct to have resisted the introduction of constant powered incentives on capex as it has done in the past, and there is no good reason or evidence to suggest that it should change its mind.

References

AMP Capital (2012). Amp Capital Submission to the Productivity Commission: The capital efficiency of Australian electricity distributors.

Australian Energy Market Commission (2012). Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Draft Rule Determinations. Sydney.

Energy Networks Association (2012). Response to AEMC Directions Paper - Economic Regulation of Network Service Providers". Canberra.

Garnaut Climate Change Review (2011). Update Paper 8, Transforming the Electricity Sector.

Independent Review Panel (2012). Interim Report: Summary findings and Draft Recommendations. Brisbane.

King, S. (2012). "The Future of Infrastructure Regulation in Australia." http://economics.com.au/?p=9135 2012.

Mountain, B. R. (2011). Australia's rising electricity prices and declining productivity: the contribution of its electricity distributors. A report for the Energy Users Association of Australia.

Mountain, B. R. (2012). A comparison of outcomes delivered by electricity transmission network service providers in the National Electricity Market, Energy Users Association of Australia.

Mountain, B. R. (2012c). "The contribution of network service providers to electricity price rises in the National Electricity Market: outcomes, reasons and possible solutions " Committee for the Economic Development of Australia.

Mountain, B. R. and S. C. Littlechild (2010). "Comparing electricity distribution network revenues and costs in New South Wales, Great Britain and Victoria." Energy Policy **38**: 5770-5782.

NERA and PWC (Australia) (2012). Capital and Operating Expenditure – Response to the AEMC Directions Paper A joint report for the Energy Networks Association.

Newbery, D. M. (2000). Privatisation, Restructuring and Regulation of Network Utilities, MIT Press.

Parry, T. (2011). Lawyers' picnic drives up the cost of electricity. The Australian.

Productivity Commission (2012a). Electricity Network Regulatory Frameworks, Draft Report. Canberra.

Robins, B. and P. Manning (2012). State power firms look to outsourcing to boost efficiency. Sydney Morning Herald. Sydney.

Vickers, J. and G. Yarrow (1988). Privatisation: An Economic Analysis, MIT Press.

Yarrow, G., M. Egan, et al. (2012). Review of the Limited Merits Review: Stage Two Report.