Comments on the use of benchmarking in economic regulation

A report prepared for Ergon in the context of AER's impending draft decisions on the Queensland DNSPs

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Executive Summary

Background

In December 2014, the Australian Energy Regulator ('AER') released a series of draft decisions concerning the allowable revenue for NSW and ACT distribution network service providers ('DNSPs'), ActewAGL, Ausgrid, Endeavour Energy and Essential Energy. These draft decisions were notable for their reliance on quantitative economic benchmarking to assess the extent of operating cost efficiencies at each of the DNSPs, which was then used to determine allowable revenues.

The task of the regulator

The purpose of economic regulation is to substitute for the role of competition in ensuring prices and quality of service meet the long term interests of customers when competition is absent or insufficiently effective. It is prevalent in sectors historically termed public utilities characterised by natural monopoly, in this context electricity distribution.

The problem for the regulator in seeking to encourage DNSPs to set prices that are efficient is that it has considerably less information about the efficient costs of provision and value of the services provided than does the regulated firm. The costs of a DNSP can be driven by external factors (such as demand characteristics, environmental challenges such as climate, landscape and vegetation and past investment choices) and internal factors, notably managerial effort (such as service quality, flexibility of labour, working hours, manning levels etc). It is the latter that is the source of controllable inefficiency, but regulators find it difficult to differentiate this from the effects of external factors.

Benchmarking provides a series of tools that can assist in addressing this information asymmetry.

The necessary characteristics of benchmarks

The accuracy of the benchmarks is an important factor the regulator should assess in deciding how best the measures can inform revenue control decisions. The greater their accuracy at the level of the individual firm, the more reliance that can be placed upon them.

In this context, effective benchmarks should identify external factor that materially affect costs, determine an appropriate measure for each, measure the extent to which a DNSP is affected by each and, on that basis, determine the level of efficient cost for that DNSP. To do this, the benchmarking must be comprehensive, robust, tractable and stable.

Unfortunately, the AER's benchmarks do not meet these criteria. For example: important outputs, notably reliability, are omitted from the model of operating cost efficiency; it is not clear that each DNSP's production technology or the effects of external factors are properly assessed; important determinants of costs (or factors that are likely to be important determinants of cost) are not consistently reported across the database used for

the benchmarking; and different benchmarking approaches using the same underlying inputs, outputs and external factors can give very different results. As a result, it is highly likely that the AER has systematically over-estimated the degree to which operating cost inefficiency is, in fact, controllable by each DNSP.

All forms or processes of benchmarking are to some degree imperfect. Whilst a great deal of trouble is taken to ameliorate these imperfections, the results must be interpreted with considerable caution, particularly where they are being used to inform revenue control decisions, the results of which could be materially adverse to the long run interests of users if prices are set below the level of efficient costs for the regulated firm.

Incentive based regulation

As a response to the problems of information asymmetry, regulators adopted incentive-based approaches to price (or revenue) setting by the regulated firms. These encouraged the regulated businesses to become more efficient, and in the course of time pass on those efficiency gains, without the necessity that the regulator precisely knows the firm's costs.

Yardstick competition is one such model in which the allowed revenue of each firm is set to the level of average costs across the sample. This rewards firms with superior efficiency and penalizes those with inferior efficiency, giving every firm an incentive to improve. Since costs differ as a result of different external factors, accurate benchmarking can identify the true effects of those external factors in establishing the average level of cost suitably adjusted for those factors.

In its draft decisions, the AER appears to have moved away from this model by, at a conceptual level, setting the revenue at the level of the most efficient firm. As a result, the most efficient firms are insufficiently rewarded for their superior effort. Firms with apparently low efficiencies have incentives to lower operating cost, but with a high risk that the reductions will be excessive from the perspective of the long term interests of customers.

Consistency with the requirements of the NER

In Synergies view, the approach that the AER has adopted is not a prescribed approach to undertaking expenditure forecast assessments, nor one that the Australian Energy Market Commission ('AEMC') enunciated in making the major amendments to Chapter 6 and Chapter 6A of the National Electricity Rules ('NER') in November 2012.

The AER has relied greatly on the economic benchmarking limb of the specified factors in paragraph 6.5.6(e) of Chapter 6 for its opex forecast assessments. By implication, the other factors have received less weight. The AEMC did not appear to envisage benchmarking being used by the AER at the expense of a significant downgrading of all other factors. Given the apparent shortcomings of the benchmarking that the AER has relied upon and the likelihood that it over-estimates controllable operating cost inefficiency, the heavy

weight does not appear to be reasonable from the perspective of meeting the long term interest of customers as required by the National Electricity Objective.

Moreover, the AER's very large proposed reductions in the DNSP's opex forecasts for the NSW and ACT DNSPs have not been subject to a 'sanity check' having regard to the broader defined NER opex objectives, specifically those relating to maintaining system reliability and safety, nor the Revenue and Pricing Principles in the National Electricity Law ('NEL'), specifically providing a reasonable opportunity for the regulated entity to recover its efficient costs.

Contents

1 The benchmarking challenge

In December 2014, the Australian Energy Regulator ('AER') released a series of draft decisions concerning the allowable revenue for NSW and ACT distribution network service providers ('DNSPs'), ActewAGL, Ausgrid, Endeavour Energy and Essential Energy. These draft decisions were notable for their reliance on quantitative economic benchmarking to assess the extent of operating cost efficiencies at each of the DNSPs, and to determine allowable revenues.

Benchmarking seeks to compare firms or business in order to identify, explain and possibly guide performance changes. It can be undertaken for a variety of purposes, not just regulation as in the current context: to inform policy decisions, to identify performance gaps as part of academic research, for companies to identify gaps and to improve their own performance.

All forms or processes of benchmarking are to some degree imperfect. Whilst a great deal of trouble is taken to ameliorate these imperfections, the results must be interpreted with considerable caution, particularly where they are being used to inform revenue control decisions, the results of which could be materially adverse to the long run interests of users if prices are set below the level of efficient costs for the regulated firm.

Against this background, this paper reviews if and how benchmarking should be used in the determination of allowable revenues. In so doing, it sets out criteria for deciding whether particular benchmarking approaches are acceptable, and then briefly reviews some considerations that arise from the National Electricity Rules ('NER').

1.1 The purpose of regulation

The purpose of economic regulation[1] is to substitute for the role of competition in ensuring prices and quality of service meet the long term interests of consumers when competition is absent or insufficiently effective.

Economic regulation has been prominent in sectors that were historically characterised as public utilities such as telecommunications, power, gas, water and sewerage. Aspects of the services that utilities provide, notably pipes and wires, are typically characterised by substantial scale economies to the extent that they form natural monopolies. As a result, the losses to society from competition in the supply of these services (e.g. two or more DNSPs[2] serving the same customers) are large in comparison with the losses associated with allowing only one supplier. The losses associated with the former arise from

[1] As opposed to, for example, health and safety regulation, regulation of connection standards etc.

[2] For simplicity we confine the discussion to DNSPs.

unnecessary duplication of fixed assets and operating costs needed to service them. The losses associated with the latter arise from the costs of regulation, including regulatory failure, to reduce inefficient monopolistic practices.

The problem for the regulator in seeking to encourage DNSPs to set prices that are efficient is that it has less, often considerably less, information about the efficient costs of provision and value of the services provided than does the regulated firm. Benchmarking provides a series of tools that can assist in addressing this information asymmetry.

1.2 External and internal factors driving costs

Stylistically, the costs of a DNSP can be driven by external factors or by internal factors. External factors might include the disposition of customers to be served, their demand characteristics, and environmental challenges such as climate, landscape and vegetation. They also extend to the past technology choices the DNSP may have made (e.g. choices over voltage, use of Single Wire Earth Return (SWER) lines etc.) and the cost of capital the firm may face.[3] Internal factors, on the other hand, relate to the choices that the firm makes in respect of matters such as service quality beyond satisfying any legislated minimum service standards, flexibility of labour, working hours, manning, inventory minimisation, speed of fault correction etc. These might be termed *effort*.

Regulators find it difficult to differentiate these two. As a result, they cannot easily determine whether a particular DNSP has high costs because of adverse external factors or because of insufficient effort. As a result, prudency (the requirement to regulate prices without risking the bankruptcy of the firm, as pointed out many years ago by Bussing)[4] requires that they set prices to remunerate the [externally caused] high cost supplier. However, the DNSP has no incentive to reveal its efficient costs, but rather has an incentive to convince the regulator that its costs are high due to external factors. A great deal of effort by the SE Australian DNSPs in their submissions to the AER is directed at demonstrating these external cost factors.[5]

The regulator can allow the firm to recover only the costs it incurs, which ensures that prices reflect costs incurred, but does nothing to ensure that the firm applies appropriate

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[3] Some of these may sit somewhere between external and internal. However, the precise distinction between them is not important for the argument.

[4] Bussing described the regulatory task thus: '*Public utility regulation in the last analysis is price regulation, limited by the fundamental requirement that a firm's solvency must be maintained*' (Bussing, Public Utility Regulation and the So-Called Sliding Scale,[4] Columbia University Press, 1936 at page 11).

[5] The regulator therefore faces the twin problems of *adverse selection* and *moral hazard*. Unless the regulator can determine the impact of external factors, it is forced (*adverse selection*) to allow revenues that assume these factors are binding. Unless it forces the firm to face the consequence of its lack of effort (*moral hazard*), the firm will continue to apply insufficient effort.

effort to its activities and brings with it the risk of gold plating.[6] Alternatively, the regulator can set a fixed price for perpetuity, which ensures appropriate effort (because the firm profits from reducing costs below the allowed price) but results in prices rising above incurred costs.[7]

1.3 Benchmarking in a regulatory context

As a response to these challenges, regulators adopted incentive-based approaches to price (or revenue) setting by the regulated firms. These encouraged the regulated businesses to become more efficient, and in the course of time pass on those efficiency gains, without the necessity that the regulator precisely knows the firm's costs.

In establishing an incentive-based regulatory framework, the regulator ideally wants to determine for each DNSP the extent to which costs are driven by external factors or by lack of effort. This will enable the regulator to set an appropriate revenue path. Benchmarking is one of a number of tools which can assist in this task. Specifically, accurate benchmarking may allow the regulator to set and periodically[8] reset a fixed price at a level that is closer to the true externally determined or *uncontrollable* costs of the firm.

The accuracy of the benchmarks is an important factor the regulator should assess in deciding how best the measures can inform revenue control decisions. The greater their accuracy at the level of the individual firm, the more reliance that can be placed upon them. Ideally, then, benchmarking should accurately describe the production function of each DNSP and determine the impact of external or uncontrollable factors on the costs that each DNSP will have to incur. If this can be done, then any costs in excess of those caused by the external factors must be due to lack of effort, which can reasonably be termed 'inefficiency'. In order to do this, the benchmark must, for each DNSP:

- identify each and every external factor that might materially affect costs, whether singly or in combination;[9]
- determine an appropriate scale or measure for each external factor;

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[6] Also known as the Averch Johnson effect, in which firms regulated on a rate of return basis (i.e. full cost recovery) have a tendency to over-invest, particularly if the allowed rate of return is above the true opportunity cost of capital of the firm. Averch H and Johnson L (1962) 'Behavior of the Firm under Regulatory Constraint,' *American Economic Review*, 52, December, 1052–1069.

[7] These two approaches alleviate adverse selection and moral hazard respectively.

[8] With intervals long enough to give incentives for the firm to make greater efforts by benefitting from the efforts.

[9] In this regard, it should be recognised that DNSPs have some substitution possibilities between capital and operating costs and between different types of capital (e.g. high or low voltage distribution with different capital cost versus losses versus operating cost characteristics). Past choices by the firm may have been affected by the relative prices of capital, opex and losses, which can differ over time. A firm investing at a time of relative capital scarcity may end up with a different capital stock from a firm investing at a time of relative capital abundance. The net result is that legacy capital is likely to differ across firms as a result of their development history in a manner that is now uncontrollable.

- measure the extent to which a DNSP is affected by each of those factors or combinations of factors; and on that basis
- determine the level of efficient cost for that DNSP.

The benchmarking must include a description of each firm's production technology, namely:

- a comprehensive description of the outputs that each DNSP produces, in so far as increasing or decreasing the production of one or more of these outputs affects costs;
- a comprehensive description of all of the inputs that each DNSP produces in so far as increasing or decreasing the supply of one or more of those inputs changes output;
- a representation of the production technology for each firm, describing how each DNSP combines inputs to produce particular distributions and quantities of outputs; and
- in so far as external factors change over time, a description of how these changes affect the firm's production technology.

The benchmarking should also be:

- comprehensive in the sense that it identifies all the sources of inefficiency or, in so far as it only identifies one source (e.g. operating cost inefficiency), it fully takes into account the interactions between that one factor and all other relevant factors (e.g. the impact of capital efficiency on operating cost efficiency);
- robust, in the sense that they produce:
    - similar results across a range of benchmarking techniques *provided* that those techniques include the broadly similar inputs, outputs and explanatory factors;
    - consistent changes in results when there are changes in the model (such as removal or addition of an output); and
    - similar results across sub-sets of the data, including sub-sets that might be confined to specific functional groups (e.g. a single country);
- tractable, which requires that they are:
    - low cost in terms of data collection costs and conduct of the tests;
    - relatively parsimonious data requirements;

- in so far as data must be drawn from different time periods and jurisdictions, temporal and jurisdictional differences must be well understood, quantifiable and capable robust representation in the models; and
- relatively easy to calculate;

- stable, such that small changes in the data do not result in large changes in the reported level of performance;
- well supported in the appropriate academic and industry literature, such that the form of the models is well understood and broadly accepted; and
- consistent, such that data across the whole sample is based on the same definitions and is comprehensive in terms of representation of all factors likely to be relevant to a firm's efficiency.

1.4 The AER's benchmarks do not meet these requirements

The AER's benchmarking does not meet these criteria. In terms of the representation of each firm's production technology:

- the stochastic frontier analysis ('SFA') upon which the AER places most reliance does not include reliability as an output, which is a known driver of operating costs;
- the inputs do not include a detailed breakdown of inputs such as high and low voltage lines, line capacities etc.;
- it may not[10] properly take account of production technologies in use by DNSPs that are somewhat extreme in character in terms of, for example, scale, customer density, climate etc. By way of example, there are few examples of large DNSPs using SWER lines, so this technology is not accurately represented; and
- it may not[11] properly take account of endogenous factors that affect costs which are specific to one or a small number of DNSPs.

The benchmarking is not sufficiently comprehensive. For example:

[10] It is not possible to determine definitively whether this is the case, but statistical analysis of subsets of the AER's data and other benchmarking approaches, such as time varying SFA and DEA, suggest that the AER's analysis is deficient in this regard.

[11] Again and for broadly the same reasons as set out in footnote 10, it is not possible to determine definitively whether this is the case.

- the preferred benchmarking approach only examines operating cost efficiency and does not examine capital cost efficiency, even though the two may interdependent;
- important determinants of costs (or factors that are likely to be important determinants of cost) are not consistently reported across the database used for the SFA estimates, and so are not included in the models;
- there is evidence that the Australian DNSPs are systematically different in their characteristics (scale etc.) from either the New Zealand and Ontario DNSPs, suggesting that the econometrically determined Cobb Douglas and translog cost functions are poor representations of Australian DNSPs; and
- it does not take into account a number of DNSP-specific characteristics that are likely to be important, such as climate and the age and condition of the capital stock.

The benchmarking also lacks consistency. For example, different but entirely reasonable benchmarking approaches give rise to very different estimates of controllable efficiency.

1.5 Consequences

As a result, it is highly likely that the AER has systematically over-estimated the degree to which operating cost inefficiency is, in fact, controllable by each DNSP. In so far as the AER is minded to immediately reduce each DNSP's operating costs to what it deems to be the efficient level, it runs a very high risk of forcing revenues below the level that covers efficient costs. This would be contrary to the long-run interests of consumers and the National Electricity Objective.

1.6 Moving away from incentive-based regulation

As noted above, incentive-based regulation is typically designed to alleviate the problems that regulators face from information asymmetry by imposing incentives on the firm to reduce costs by setting a fixed price for a fixed duration. This reduces incentives to gold plate under cost-based regulation, and encourages effort (rewarded by profit) on the part of the DNSP to move closer to efficient operation, without the necessity for the regulator to know the precise efficient costs of provision.

Yardstick competition is one such model, mediated through effective benchmarking. As early as 1985, Schleifer[12] formalised the idea of yardstick competition between natural monopolies. Under his model in which there were a number of firms that differed solely in

[12] Schleifer A (1985) 'A Theory of Yardstick Competition' *RAND Journal of Economics* 16 3 319.

terms of their efficiency, efficient outcomes would arise if prices were set at the level of the firm with average costs.[13] Over the course of time, as average costs change, so too does the set price. The assumption that costs differ solely due to inefficiency is not, however, reasonable. Costs also differ due to external factors. However, if benchmarking can identify the true effects of those external factors, then the Schleifer model can operate by setting each firm's costs, adjusted for the impact of the external factors, to the costs of the average firm similarly adjusted for the external factors it faces.

The AER appears to have moved away from this model. Rather, it appears to want to set revenues immediately at what it deems to be efficient costs, where efficient costs are defined by the frontier of firms determined by SFA. This gives rise to two significant problems:

- those firms at the frontier receive no reward for being more efficient that their peers (unlike the Schleifer model in which they receive superior rewards). As a result, they have weak incentives to improve efficiency[14] and are unlikely to expend sufficient effort on efficiency improvements or innovation over time. The AER's approach for efficient firms appears to be very similar to rate of return regulation in this regard;
- firms that are inefficient by the AER's measure have strong incentives to improve efficiency, but the AER has essentially ignored the likelihood that its estimates of controllable efficiency are incorrect. That is, the AER is not paying sufficient regard to the possibility that its lack of information (i.e. information asymmetry) will violate the long-run solvency constraint identified by Bussing.

1.6.1 Conservativism in the AER's analysis

It should be noted that the AER did not strictly measure the operating cost inefficiency of each firm by reference to the frontier, but rather developed an alternative frontier based on the average efficiency score of Australian DNSPs in the top quartile (i.e. above 75%). As a practical matter, this reduced the Australian frontier from 96% efficient (set by Citipower, a relatively small Victorian urban distributor)) to 86%. As Economic Insights, AER's advisors on economic benchmarking, noted:

> Although the output specification used appears to perform well, we are taking an average result which reduces the impact of year–to–year fluctuations and abnormalities,

[13] The maximum price that a firm can charge is then independent of its own cost so it has incentives to minimise its own cost in order to maximise profits. All firms have the same basic incentive, to lower costs to the efficient level. The incentive to be most efficient derives from the higher profits the most efficient firms earn.

[14] They benefit for a short period of time to the extent that they manage to improve efficiency over the term of a periodic review, but this is a much weaker incentive that would apply either to less efficient firms or under the Schleifer type model.

> and [while] our opex cost function models perform well statistically, we are of the view that it is prudent to adopt a conservative approach to choosing an appropriate benchmark for efficiency comparisons. Adopting a conservative approach allows for general limitations of the models with respect to the specification of outputs and inputs, data imperfections and other uncertainties.[15]

Economic Insights also adjusted upwards the efficiency scores of the NSW/ACT DNSPs to take account of factors that affected costs but which were not included in the SFA model.

This conservatism does not fundamentally change our criticisms. The basic model that the AER has adopted remains closer in kind to cost-based regulation for firms at or near the frontier due to the lack of higher remuneration for superior performance.[16] For those firms distant from the frontier, it is far from clear that the 'conservative' adjustments are adequate, so it remains likely that the final estimates of controllable efficiency are excessive.

In light of our views about the appropriate use of economic benchmarking tools in economic regulation and our specific concerns about the AER's use of these tools in its recent draft decisions, the next section of our report assesses the guidance provided by the national electricity regulatory framework in the use of such tools and alternative approaches in making assessments of DNSPs' expenditure forecasts.

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[15] Economic Insights (17 November 2014) *Economic Benchmarking Assessment of Operating Expenditure for NSW and ACT Electricity DNSPs* 47.

[16] In this regard, it should be noted that the shift of the frontier from 96% to 86% is not recognition of Citipower's superior efficiency (measured at 96%) and a means of allowing Citipower to earn a superior return. Rather, it is a reflection of the fact that the AER does not know whether Citipower's true efficiency is 96%.

2 Requirements of the NER

Clauses 6.5.6 (opex) and 6.5.7 (capex) of Chapter 6 of the National Electricity Rules ('NER') prescribe detailed rules for the preparation, assessment and approval of a DNSP's forecast expenditure for its standard control services[17], which must initially be incorporated in the building block component of its Regulatory Proposal. These provisions include defined opex/capex objectives and criteria, plus the factors that the AER must have regard to in making its decision whether or not to approve the DNSP's expenditure forecasts. Clauses 6.5.6 and 6.5.7 are mirror images in terms of drafting and, in practice, should result in broadly the same development and assessment processes applying in relation to a DNSP's opex and capex forecasts. This discussion focuses on opex.

2.1 Operating costs objectives and criteria

The opex objectives are that forecast expenditure should meet expected demand, all relevant regulatory/legislative requirements and the safety of the distribution system.[18] The opex criteria require that the opex objectives be met in a prudent and efficient manner, as well as reflect a realistic expectation of the demand forecasts and cost inputs required to achieve the opex objectives.[19] The AER must accept a DNSP's opex forecasts if it is satisfied that the forecast expenditure reasonably reflects the opex objectives and criteria. If the AER is not satisfied, it can substitute its own forecasts for those proposed by the DNSP.

2.1.1 Opex decision-making factors

The AER's decision regarding whether the opex objectives and criteria are satisfied in relation to the DNSP's opex forecasts must be made having regard to a number of specified factors.[20] Economic benchmarking is just one of the decision-making factors. Other factors include a DNSP's historical expenditure, the relative prices and substitution possibilities of opex and capex inputs, the outcomes of the DNSP's customer engagement and the potential for efficient and prudent non-network alternatives.

More generally, the AER must also have regard to the National Electricity Objective ('NEO') and Revenue and Pricing Principles ('RPPs') in the National Electricity Law ('NEL') when assessing DNSPs' Regulatory Proposals, including exercising its discretion. In particular, paragraph 7A(2) of the Revenue and Pricing Principles includes a requirement that the regulated network service provider should be provided with a

[17] Core network services.

[18] National Electricity Rules, Chapter 6, paragraph 6.5.6(a)

[19] National Electricity Rules, Chapter 6, paragraph 6.5.6(c)

[20] National Electricity Rules, Chapter 6, paragraph 6.5.6(e)

reasonable opportunity to recover at least the efficient costs the operator incurs in providing direct control network services[21] and complying with regulatory requirements.

2.1.2 Significant changes

In prior decisions, the AER stated that it was unduly constrained by the rules in exercising its discretion, particularly in assessing DNSPs' capex and opex forecasts. In response, the AEMC deleted the contentious 'individual circumstances' paragraph 6.12.3(f) of the then Chapter 6 (and 6A). This change meant that, when the AER replaces a DNSP's expenditure forecast with the AER's substitute value (as it proposes to do in its NSW/ACT draft decisions), the NER does not require that the substitute be determined on the basis of the DNSP's proposal and amended from that basis only to the extent necessary to be approved.[22]

2.1.3 AER's new approach

In simple terms, Clauses 6.5.6 and 6.5.7 require the AER to undertake a prudency and efficiency assessment of a DNSP's opex and capex forecasts in the context of what is known as 'building block' economic regulation.

Australian regulators assessing regulated entity's expenditure proposals under building block regulation have generally placed the largest weight on the entity's own historical and forecast expenditure, with some cross-referencing of the prudency and efficiency of these costs using qualitative and quantitative industry benchmarks where available. In contrast, it appears that the AER now gives particular weight to the benchmarking criterion.

In so doing, it sees itself as only setting the annual revenue requirement, not in determining how the DNSP should or might use that revenue, stating: :[23]

> It is important to note that we make our assessment about the total forecast opex and not about particular categories or projects in the opex forecast.

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[21] Standard control services are a subset of direct control services.

[22] Paragraph 6.12.3(f) was expressed as follows:

If the AER refuses to approve an amount or value referred to in clause 6.12.1, the substitute amount or value on which the distribution determination is based must be:

(1) determined on the basis of the current regulatory proposal; and

(2) amended from that basis only to the extent necessary to enable it to be approved in accordance with the Rules.

[23] AER (2014), Draft decision, Ausgrid distribution determination 2014–19, Attachment 7: Operating expenditure, November, p 10

2.2 Comments on the AER's approach

The foregoing gives rise to a number of concerns about the AER's approach, as set out in its recent draft decisions.

The change to the 'individual circumstances' condition appear to allow the AER to have much less regard to specific features and characteristics of each DNSP, such that it approaches the impact of external factors by estimating the average effect thereof (using SFA and related techniques) and through *ad hoc* adjustments. This approach, for the reasons set out above, is not robust.

The AER's stated intent, that its primary objective when assessing a DNSP's building block proposal is to determine the maximum annual revenue allowances, does not reflect any specific provisions in Chapter 6. In other words, it is not a prescribed approach to undertaking expenditure forecast assessments, nor one that the Australian Energy Market Commission ('AEMC') envisaged or enunciated in any way in making the major amendments to Chapter 6 and Chapter 6A in November 2012.

The AER appears to have placed a very heavy reliance on the economic benchmarking limb of the specified factors for its opex forecast assessments set out in Paragraph 6.5.6(e). By implication, the other factors have received much less weight. Given the apparent shortcomings of the benchmarking that the AER has relied upon and the likelihood that it over-estimates controllable operating cost inefficiency, the heavy weight does not appear to be reasonable from the perspective of meeting the long term interest of customers (as required under the National Electricity Objective).

In our view, the AEMC did not appear to envisage benchmarking being used by the AER at the expense of a significant downgrading of all other factors. In this regard, the AEMC expressed the following view:[24]

> The Commission is of the view that the removal of the "individual circumstances" clause [paragraph 6.12.3(f)] does not enable the AER to disregard the circumstances of a NSP in making a decision on capex and opex allowances. Benchmarking is but one tool the AER can utilise to assess NSPs' proposals. It is not a substitute for the role of the NSP's proposal.

Of most contention currently is how much weight the AER has (or should have) placed on a DNSP's own costs and specific network circumstances. In the context of its opex assessments, network specific factors appear to have been considered solely in terms of 'internal' adjustments to the outcomes of the economic benchmarking models rather than adjustments being informed through an alternative 'external' assessment approach, such

[24] AEMC (2012), p 107

as engineering-based assessments of a DNSP's major opex programs or its overhead cost pool.

Moreover, the AER's very large proposed reductions in the DNSP's opex forecasts (up to 38% for Ausgrid and Essential Energy) have not been subject to a 'sanity check' having regard to the broader defined NER opex objectives, specifically those relating to maintaining system reliability and safety, nor the Revenue and Pricing Principles in the NEL, specifically providing a reasonable opportunity for the regulated entity to recover its efficient costs.

Finally, in contrast to its opex assessments, the AER has made somewhat less use of economic benchmarking tools in its capex forecast assessments. The outcomes of the AER's prudency and efficiency assessments of a DNSP's capex forecasts were not driven by the DNSP's capital partial factor productivity (benchmarking) score. Rather, they reflect broader range of matters, including the DNSP's capex planning and governance processes and its past augmentation expenditure having regard to network characteristics such as age. It also reflects a broader set of assessment techniques such as engineering based assessments, external and network-specific benchmarks such as the AER's 'repex' model, trend analysis, predictive modelling and closer examination of specific areas of apparent high cost.