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4 May 2012

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

Email: electricity@pc.gov.au

Dear Sir/Madam

Electricity Network Regulation – Issues Paper - Productivity Commission

Essential Energy appreciates the opportunity to respond to the Productivity Commission's Issues Paper titled Electricity Network Regulation February 2012 ('the issues paper').

Essential Energy is a member of the Energy Networks Association (ENA). This submission is prepared in support of the ENA's more detailed and comprehensive response, and should be read in conjunction with that document.

This submission focuses on the benchmarking aspect of the issues paper and does not address the effectiveness of interconnection regulatory arrangements.

Essential Energy would be pleased to discuss this matter further. Should you require further information or clarification please feel free to contact Natalie Lindsay

Yours sincerely

Col Ussher
Executive General Manager Infrastructure Strategy

Att. 1.

Electricity Network Regulation

Issues Paper – Productivity Commission

4 May 2012
Prepared by: Essential Energy

Background

Essential Energy is a Distribution Network Service Provider (DNSP) operating an electricity distribution network that extends across an operating area covering 95 per cent of New South Wales' land mass, and into parts of Queensland, Victoria and the Australian Capital Territory. Essential Energy's network includes approximately 200,000 kilometres of powerlines and 1.4 million poles. Within NSW, Essential Energy is licensed to operate its network under the Electricity Supply Act 1995 (NSW).

Essential Energy provides general comments on benchmarking issues below, but also directs the Productivity Commission to the submission prepared by the Energy Networks Association (ENA) for a more detailed and comprehensive response to the issues paper.

Interaction of Benchmarking with the Regulatory Framework

The issues paper notes the various reviews and rule changes currently being conducted by the Australian Energy Market Commission (AEMC). It is important that the Productivity Commission ('the Commission') not only take these current processes into consideration, but also other related reviews, including the AEMC's Total Factor Productivity (TFP) rule change[1] and the Commission's staff working paper on Multi Factor Productivity (MFP)[2].

In Essential Energy's opinion, the Commission should focus on the appropriate role and use of benchmarking in contributing to the achievement of efficient delivery of network services. Whilst the issues paper notes the importance of considering the extent to which complementary rule changes may be required as part of this review, Essential Energy believes this should be a secondary consideration, at least until the outcome of the AEMC's rule change process on the economic regulation of Network Service Providers (NSPs)[3] is finalised. The AEMC's review, and submissions made to date, have provided stakeholder views on similar benchmarking issues to those being considered by the Commission.

Appropriate Use of Benchmarking

Under the National Electricity Rules (NER), benchmarking is one of ten factors that the AER must have regard to in determining whether a DNSP's level of capital and operating expenditure is efficient and prudent. As described below, there is ample evidence demonstrating that the AER often uses benchmarking when assessing regulatory proposals of DNSPs.

Essential Energy is not opposed to the use of robust and rigorous benchmarking. However, inappropriate benchmarks may lead to incorrect conclusions about the performance of a DNSP. The issues paper notes that there are significant differences in opinion about whether benchmarking is practical and useful. Benchmarking DNSPs is particularly challenging due to the following limitations:

[1] AEMC 2011, *Total Factor Productivity for Distribution Network Regulation*, Rule Determination, 22 December 2011, Sydney

[2] Topp, V. and Kulys, T. 2012, *Productivity in Electricity, Gas and Water: Measurement and Interpretation*, Productivity Commission Staff Working Paper, Canberra

[3] AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services*, Directions Paper, AEMC, 2 March 2012, Sydney

- a small number of alike DNSP's across all jurisdictions;
- different licence conditions and obligations between jurisdictions;
- differences in accounting policies, including capitalisation, purchasing and cost allocation methods;
- variations in the operating environments of each DNSP, for example Essential Energy operates in a vast geographic area, with very low customer density;
- differing historical asset mixes that influence the age, size, structure, maturity and therefore investment cycles of DNSPs; and
- the lack of available complete and comparable data.

These limitations are difficult to quantify, but it is important they are recognised and accounted for in any benchmarking analysis, otherwise incorrect conclusions could be drawn regarding a business' efficiency levels when compared to its peers.

Using benchmarking data without consideration of these factors will result in inaccurate conclusions and decisions being made, and the loss of confidence of those NSPs that are directly impacted. In regards to this, the use of statistical benchmarking at a highly aggregated level to set revenues is inappropriate on its own. Benchmarking results at this level should be no more than an indicator of aspects of a regulatory proposal where further analysis may be required. Unfortunately, the recent focus on increasing network prices have focused on inappropriate and poor benchmarking studies completed on a purely statistical basis at a highly aggregated level. Please refer to the ENA's response for more information and a detailed critique of these studies.

In its recent 2012-13 to 2016-17 draft distribution determination for Aurora Energy ('Aurora'), the AER considered a number of factors to determine if Aurora's capital and operating expenditure was efficient. One of those factors was the use of benchmarking.[4]

Aurora Energy submitted two benchmarking reports in support of its regulatory proposal and the AER acknowledged that:

> *"In interpreting the findings of expenditure benchmarking on Aurora's efficiency the AER must have regard to the comparability of Aurora with the other DNSPs operating in the NEM. The AER has discussed the limitations of benchmarking in previous determinations. These limitations include:*
>
> - *Different licence requirements in the NEM jurisdictions*
> - *Differences between purchase and leasing policies*
> - *Variations in the network characteristics of DNSPs including the age, size and maturity of their networks and the markets they serve*
> - *Different capitalisation, cost allocation and other accounting policies*
> - *Different regulated service classifications*
>
> *Nevertheless, the AER considers that expenditure benchmarking at an aggregate level combined with analysis aimed at identifying and accounting for the impact of these differences can provide information on the relative efficiency of DNSPs"*[5]

[4] AER, *Draft Distribution Determination Aurora Energy Pty Ltd 2012-13 to 2016-17*, November 2011, Canberra

Essential Energy acknowledges that the AER used a number of techniques in addition to benchmarking in deciding if the expenditure in Aurora's regulatory proposal was prudent and efficient. However, the Aurora draft determination shows that benchmarking can and does influence the approved levels of expenditure in regulatory proposals to varying degrees. It seems appropriate that if benchmarking is going to be used to adjust the expenditure of a DNSP that the results are accurate and dependable.

In essence there seems to be general agreement that benchmarking is a useful tool, but that it also has some practical limitations that must be carefully addressed prior to it being used to assess DNSP performance and costs. As noted in the issues paper there have been recent examples where the AER has used benchmarking reasonably appropriately in the case of Aurora's forecast replacement capital expenditure, and other examples like Powercor's vegetation management where benchmarking was poorly done.

Response to Issues Paper Questions

Essential Energy provides responses to some of the specific questions asked in the issues paper below.

To what degree do different jurisdictions' reliability standards affect costs, if at all? Do different standards affect the potential and/or incentives for a single network business to extend its network across borders?

As a general rule higher reliability standards result in higher network costs in order to ensure that those reliability standards are met. NSW has legislated design, reliability and performance licence conditions that have imposed significant additional costs on Essential Energy. The licence conditions are aimed at balancing a customers need for reliable power supply with the cost of providing it in an efficient and prudent manner.

Why have reliability standards been increased over time, and what impacts have these increases had on costs?

The *Design, Reliability and Performance Licence Conditions for NSW Distribution Network Service Providers* ('the licence conditions') introduced mandated network design planning criteria and reliability standards in 2005. Prior to the introduction of the licence conditions, each NSW DNSP was individually responsible for determining the appropriate level of reliability for their customers. The licence conditions formalised the framework for measuring and reporting reliability standards and have played a role in improving the reliability experienced by customers. However, this benefit has come at a cost due to the accelerated distribution network investment required.

To what extent would adoption of a probabilistic versus deterministic framework change costs? What risks and benefits would this entail?

Essential Energy currently operates its network under a deterministic framework. Essential Energy operates a radial network and the use of a probabilistic approach may significantly decrease reliability for customers.

[5] Ibid.

What evidence is there of customer involvement (such as willingness to pay) in setting reliability standards?

The current AEMC review of distribution reliability standards in NSW will provide customers with an opportunity to be involved in setting reliability standards. Essential Energy understands that as part of that review, the AEMC is conducting a value of customer reliability study to gauge customer's willingness to pay for increases in reliability. It is also understood that, at Essential Energy's encouragement and as a direct result of our day to day involvement with our network customers, the AEMC has included in this study a survey of the value customers place on provision of outage information. Essential Energy believes that pro-active provision of this information during planned and unplanned outages is valued equal to, if not more than, incremental improvement in average reliability performance.

Submissions to the current AEMC review will also provide an indication of the level of customer involvement in setting reliability standards. Based on similar reviews conducted by the AER and AEMC, customers are generally involved through large user or consumer advocacy groups rather than on an individual basis.

How are existing reliability incentive schemes functioning and how could benchmarking contribute to their design?

Essential Energy must report System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) figures each quarter to the NSW Government in compliance with its licence conditions. SAIDI and SAIFI are examples of benchmarks that are used to determine the effectiveness of a DNSP's network. However, using benchmarking to asses reliability standards will involve the same challenges as the benchmarking of financial information discussed earlier.

What is an appropriate governance structure for setting and monitoring reliability standards, and what is the rationale or evidence base for different standards across jurisdictions?

Different standards across jurisdictions reflect the history and differing operating circumstances of each jurisdiction. The AEMC's review of distribution reliability standards in the National Electricity Market (NEM) may recommend a set of nationally consistent reliability standards. Regardless of how reliability standards are set, Essential Energy believes that monitoring of these standards should not be duplicated within and between jurisdictions.

To what degree should a jurisdiction that specifies a higher reliability standard than others justify such a requirement to its constituents based on a transparent cost-benefit analysis?

Essential Energy believes that any new policy implementation should be supported by transparent and repeatable cost-benefit analysis.

Demand Management

As noted in table 1 of the Commission's issues paper the AEMC is currently conducting a review on the Power of Choice which is exploring options for more efficient electricity consumption through demand side participation. On 23 March 2012 the AEMC released a directions paper that provides an assessment of the potential for Demand Side Participation (DSP) in the NEM, confirms the market conditions required to promote efficient DSP, and highlights areas for improving market and regulatory arrangements

for further consideration under the review[6]. This discussion paper provides a lot of information on the role of DSP in the NEM that could be utilised by the Commission as part of this review process.

How do network providers model and make financial decisions about the impact of peak demand growth on network adequacy, including identification of the most cost-effective network investment solution (for a given reliability standard)?

Essential Energy's licence conditions under the Electricity Supply Act 1995 require consideration of demand management alternatives to network augmentation. This is outlined in the NSW Code of Practice - Demand Management for Electricity Distributors and further reinforced by the requirements of Section 5.6.2 of the NER. The licence conditions also prescribe minimum service levels to be maintained.

Essential Energy constantly monitors network loads and forecasts future demand in order to assess the ongoing ability of the network to meet prescribed service standards. Where forecasts indicate that sections of the network may be constrained due to increased peak demand within the nominal planning timeframe, Essential Energy undertakes network modelling to assess likely network augmentation options.

The network model is used to establish the nature and timing of network support that would need to be sourced to defer the network augmentation investment. Possible demand management strategies are assessed to determine whether it would be reasonable to expect that it would be cost effective to avoid or postpone the network expansion by implementing them. These strategies would include initiatives such as interruptible loads, embedded generation, energy storage, VAr support, fuel switching, customer education, demand related tariffs and energy efficiency. Where appropriate, non-network service providers are consulted and likely costs for network support obtained.

The costs of all valid options are estimated over the economic life of the project and the preferred constraint solution is determined by comparing the net present value of each option.

What is the evidence about the effectiveness and customer acceptance of demand management provided by the various trials and experiments in Australia and internationally? What factors have inhibited the use of already installed smart meters?

Essential Energy believes that the use of already installed smart meters may have been inhibited by a lack of price signals for end use consumers. Without appropriate price signals, consumers do not have an incentive to change their consumption patterns away from peak times.

Conclusion

Essential Energy believes that there are no barriers in the NER inhibiting the use of benchmarking by the AER. Available evidence demonstrates that the AER regularly utilises benchmarking analysis in making determinations on DNSP regulatory proposals.

In Essential Energy’s opinion, the Commission’s review should focus on providing appropriate guidance to stakeholders on the role of benchmarking and how it should be used when assessing regulatory proposals from DNSPs under the current NER.

[6] AEMC 2012, *Power of choice – giving consumers options in the way they use electricity*, Directions Paper, 23 March 2012, Sydney

Essential Energy has no objections to the use of robust benchmarking that:

- takes into account the unique operating environment of individual businesses;
- compares performance on a like for like basis;
- is used in conjunction with a range of other performance measures and analysis;
- has been tested across time and provides consistent results; and
- is transparent and can be explained to stakeholders so that they have confidence in the results.