

# **Independent Competition and Regulatory Commission**

## **Submission on the Australian Energy Regulator's service target performance incentive scheme and efficiency benefit sharing scheme**

**14 May 2008**



**ICRC**  
independent competition and regulatory commission

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## ***Independent Competition and Regulatory Commission***

### ***Submission on the Australian Energy Regulator's service target performance incentive scheme and efficiency benefit sharing scheme***

The Commission was, until 1 January 2008, the jurisdictional regulator of electricity distribution services of the sole electricity distributor, ActewAGL, in the Australian Capital Territory (ACT). The Commission's most recent price direction for distribution services was released in March 2004 and covered the period from 1 July 2004 until 30 June 2009. In that decision the Commission considered the adoption of both an efficiency benefit sharing scheme and a service target performance incentive scheme (incentive mechanisms). The Commission decided to not adopt either scheme in the final decision but promised to investigate the costs and benefits of these schemes over the current regulatory period. A similar conclusion was reached in the Commission's review of water and wastewater pricing in April 2004.

The Commission released a discussion paper on incentive mechanisms in March 2005, a draft decision in August 2005 and a final decision in December 2005.<sup>1</sup> With the release of the first two reports the Commission called for submissions from interested parties and discussions were held with community groups and the regulated businesses during the review. The Commission endeavoured to thoroughly examine the costs and benefits of introducing both schemes as part of this review with consideration for adoption of either scheme in the Commission's role as regulator of network electricity services and water and wastewater services. During the course of the Commission's review of incentive mechanisms the transfer of regulatory oversight for electricity distribution from the Commission to the AER was finalised and the Commission's decision on incentive mechanisms applied only to water and wastewater services.

The Commission understands that the AER is required under the National Electricity Rules to develop a service target performance incentive scheme and an efficiency benefit sharing scheme. Notwithstanding this requirement, the Commission believes that these schemes should only be implemented if it can be clearly shown that there is a net benefit to do so. This implies that the schemes need have a sound justification in economic theory and the schemes need to be practicable. For the schemes to be practicable two conditions must be met:

- There must not be significant measurement problems with designing and parameterising the schemes and
- the introduction of a new scheme should not create or increase incentives for the regulated business to attempt to game the regulatory process.

The economic logic and theoretical justification behind a service target performance incentive scheme appears straightforward. In theory, if the marginal value of service

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<sup>1</sup> The Commission's reports can be found on the Commission's website: [www.icrc.act.gov.au](http://www.icrc.act.gov.au). ICRC, *Discussion Paper: Incentive Mechanisms*, March 2005. ICRC, *Draft Decision: Review of Efficiency and Service Standard Incentive Mechanisms*, August 2005. ICRC, *Final Decision: Review of Efficiency and Service Standard Incentive Mechanisms*, December 2005.

quality to customers can be internalised to the regulated business, then the regulated business can be induced to provide the optimal level of service.<sup>2</sup> The AER has identified this potential to improve economic efficiency.

The theoretical justification for efficiency benefit sharing scheme is less well developed. Indeed, the AER's stated reasons for the efficiency benefit sharing scheme are a jumble of ideas without a coherent theme. The issue that is not raised in the AER's paper is the most important issue, that is, where are the supposed efficiencies arising.

Efficiency gains can arise from several sources. Non-pecuniary effort on the part of the managers of the business to control costs generates efficiencies. So does expenditure today on R&D that may reduce costs in the future. Substituting capital expenditure for operating expenditure will reduce operating expenditure and may appear to be an efficiency gain. There are also natural productivity gains that are economy wide and these spill over to the regulated business as efficiency gains. Efficiency gains can be generated either internally by the business or externally through the industry or the economy.

Significantly, in a recent article in the *Journal of Productivity Analysis*, Aubert and Reynaud found that rate of return regulation coupled with extensive expenditure review generated the most efficient outcomes for regulated water businesses in the state of Wisconsin in the United States.<sup>3</sup> In other words it was not the potential use of some form of incentive mechanism which resulted in efficiency gains, it was an extensive assessment of proposed expenditure. Presumably, the AER will conduct such reviews of proposed operating expenditure in upcoming reviews to determine the efficient level of costs and these reviews have the potential to result in efficient outcomes for the business without the need for an efficiency benefit sharing scheme.

Proceeding with the adoption of an efficiency benefit sharing scheme without some informed understanding of how these schemes might work would be unwise. The economic evaluation of an efficiency benefit sharing scheme requires comparing the level of efficiency gains generated without the efficiency benefit sharing scheme as compared to the level of efficiency gains generated with the efficiency benefit sharing scheme. This has not been done satisfactorily by any regulator in Australia that has adopted an efficiency benefit sharing scheme. The Commission also understands that the Essential Services Commission in Victoria has not introduced an efficiency benefit sharing scheme in its recent water decision despite having previously had experience in the use of such a scheme in its regulation of electricity distribution.

A service target performance incentive scheme requires parameterisation that is highly unlikely to generate a scheme that correctly represents the internalised marginal benefits of service to the customers. Customers marginal benefits from service are usually

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<sup>2</sup> This assumes that a single measure of service can be constructed that reflects the true preferences of customers for service. Achieving the efficient level of service in the market where the marginal benefit of service for each customer equals the marginal cost of service will occur only if all customers have the same marginal benefit for service. If customers have different preferences for service then setting the average benefit of service equal to the marginal cost of providing service will yield a second best optimum.

<sup>3</sup> Aubert, C. and Reynaud, A. (2005) The impact of regulation on cost efficiency: an empirical analysis of Wisconsin water utilities, *Journal of Productivity Analysis*, vol. 23, pp. 383-409.

determined from willingness to pay studies. The results of these studies are generated from a small sample of customers who are presented with hypothetical choices between bundles of service and annual bills. Marginal willingness to pay for service is then determined by econometric estimation given the hypothetical choices. Ignoring the commonly known flaws of the contingent valuation methodology, it is important to remember that the outputs of these model are statistical estimates. Due to the small size of the sample of customers used in these studies these estimates often are not statistically different from zero. For example, Hensher, Shore and Train found that the willingness to pay for removing stage 1 and 2 water restrictions in the ACT was positive but not statistically different from zero.<sup>4</sup> It is inappropriate to then use these estimates to calculate parameters for a service target performance incentive scheme without analysing the standard errors for these parameters, as these standard errors may be quite large.

In its review of incentive mechanisms the Commission's conclusion was that the probability of incorrectly parameterising the service target performance incentive scheme was so large that the regulated business would not necessarily move towards the socially optimal level of service. The Commission's view was that the public setting of minimum levels of service and the penalties associated with breaching those levels of service was sufficient to guarantee outcomes beneficial to customers and the regulated business.

The practical issues with designing an efficiency benefit sharing scheme are also significant. A primary concern is that the incremental scheme as proposed by the AER places inordinate importance on forecast operating costs. While the business has the same incentive to reduce costs regardless of the level of forecast costs, the magnitude of the carryover benefit depends on the forecast costs. The business gains \$5 for every \$1 increase in the forecast cost of the final year of the regulatory period irrespective of the level of efficiency gains. For example, if the business successfully convinces the regulator that the forecast operating costs in year 4 of the regulatory period is \$101 when the true efficient cost is \$100 the business earns an efficiency carryover of \$1 for each of the next five years. This increases the incentive of the regulated business to misrepresent future costs when making forecasts, i.e., to game the regulatory process. A potential solution to this problem would be to put a deadband around the forecast cost and reward or punish the regulated business only if actual costs fall outside the deadband. This would preserve the incentive benefits for significant efficiency gains but reduce the incentive to game the regulatory process.

The Commission in its review of incentive mechanisms found that there are significant problems with the implementation of these schemes. The Commission determined that these flaws were serious enough to warrant not adopting either a service target performance incentive scheme or an efficiency benefit sharing scheme.

In addition, the Commission is not convinced that the theoretical basis of the argument favouring an efficiency benefit sharing scheme necessarily is proven. There are too many factors acting upon the behaviour of the regulated entity to pretend that one simple regulatory tool built around a simplistic equation can isolate all of the factors which will

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<sup>4</sup> Hensher, D., Shore, N., and Train, K. (2006) Water supply security and the willingness to pay to avoid drought restrictions, *Economic Record*, vol. 82, pp. 56-66.

impact upon efficiency regardless of the actions of the regulated entity itself. Furthermore, as is demonstrated by a simple examination of the AER's model, there is the potential to handsomely reward the regulated business by simply allowing the business to game the regulator in terms of forward projections of costs.

The Commission does not support the proposed need of service standards and efficiency sharing mechanisms, nor the models proposed by the AER for this purpose. The Commission believes that the AER has not made the case for the use of these models versus the use of other regulatory devices, and the models proposed are flawed.

The Commission draws the AER's attention to the discussion in its earlier reports on this matter for further comments on the strengths and weaknesses of these arrangements.

14 May 2008