Submission

to the

Queensland Competition Authority

(QCA)

ELECTRICITY DISTRIBUTION: FRAMEWORK FOR REGULATION

Submission by ENERGEX Limited

1. INTRODUCTION

This paper is a submission made to the Queensland Competition Authority (QCA) in response to its Issues Paper *Electricity Distribution: Framework for Regulation* dated December 1999. The paper calls for submissions from interested parties to be made as part of a consultative process for the regulation of the electricity industry as required under the National Electricity Code.

ENERGEX Limited ("ENERGEX") is making this submission on behalf of all subsidiaries including ENERGEX Retail Ltd.

ENERGEX submits that regulation should be light-handed to avoid unnecessary intervention in an industry that is rapidly becoming contestable. Rules should only be prescribed where there are clearly demonstrable benefits exceeding the costs of regulation. For example, we believe that the current regime, introduced by the Queensland Electricity Reform Unit, is overly prescriptive in regard to annual review of actual revenue recovery.

ENERGEX submits that revenue caps should be derived from forecasts of the cost of service for each year of the regulatory period, with some smoothing during the regulatory control period.

The benefits of this individual year approach are:

- cost of service each year can be estimated using the building block approach[1], which reduces the reliance on a single year estimate for the remainder of the regulatory control period;
- there can be explicit forecasts of components such as operating and maintenance expenditure and capital expenditure for each year of the regulatory period, rather than these being set by a formula that cannot take into account sound planning;
- such forecasts may be assessed by the regulator;
- appropriate incentive mechanisms can be applied to individual components, as discussed under the next issue;
- system quality standards can be incorporated in individual revenue caps; and
- price paths can be calculated to share incentives.

The remainder of this submission discusses issues of detail as requested in the Issues Paper. However we believe that all comments should be considered in the context of a light-handed approach.

Comments made in this paper may be made public as part of the normal consultation process by QCA.

[1] This approach is discussed in ENERGEX's submission to the QCA Issues Paper *Electricity Distribution: Asset Valuation, Depreciation and Rate of Return*.

2. COMMENTS

2.1 The Authority seeks comment on the benefits of alternative forms of revenue or price control in the context of electricity distribution; and the preferred method for the current review.

The National Electricity Code (NEC) explicitly requires network regulation to be incentive based.

2.1.1 Price cap

Price cap regulation by applying a CPI – X formula to initial prices is potentially very light-handed. However it appears that regulators may feel the need to intervene in price caps during regulatory periods, due to concerns about:

- risks with forecasts;
- some complexity in verifying price caps across a basket of services; and
- potential for price steps across regulatory periods.

2.1.2 Revenue cap

ENERGEX submits that a well-designed revenue cap may be most appropriate for Queensland.

It is the NEC's preferred form of incentive regulation, and has been used:

- in the 1997 regulation of Distribution Network Service Providers (DNSPs) in Queensland;
- by IPART in the recent NSW review; and
- by the ACCC in setting revenue for transmission network service providers.

Revenue caps can be designed to reduce regulatory risk to DNSPs and customers.

- Properly designed revenue caps can provide appropriate incentives for DNSPs while sharing efficiency gains with customers.
- There is more flexibility in adjusting pricing within regulatory periods.

2.1.3 Revenue cap for each year

ENERGEX submits that the revenue caps over the regulatory period should be derived from forecasts of the cost of service for each year of the regulatory period, with some smoothing during the regulatory period.

This approach was used by IPART for electricity distributors in New South Wales, and has been proposed by the ACCC for electricity transmission nationally. The approach differs however to that used in the 1997 regulation of DNSPs in Queensland.

The benefits of this individual year approach are:

- cost of service each year can be estimated using the building block approach[2], which reduces the reliance on a single year estimate for the remainder of the regulatory control period;
- there can be explicit forecasts of components such as operating and maintenance expenditure and capital expenditure for each year of the regulatory period, rather than these being set by a formula that cannot take into account sound planning;
- such forecasts may be assessed by the regulator;
- appropriate incentive mechanisms can be applied to individual components, as discussed under the next issue;
- system quality standards can be incorporated in individual revenue caps; and
- price paths can be calculated to share incentives.

ENERGEX does not support continued use of the approach used in the 1997 regulation of DNSPs in Queensland, namely to calculate building blocks for the first year only, and then apply CPI – X.

2.2 **The Authority seeks comment on whether CPI-X is considered the most suitable approach to incentive regulation and the most appropriate method for determining the X Factor.**

Industry participants and regulators incur large costs in settling on an appropriate X factor in a CPI – X regime. Better methods of incentive regulation than CPI-X would provide great improvements in efficiency of regulation, and ENERGEX urges regulators to develop better technology.

It is the fundamental problem of regulation, to simulate the sharing of efficiency gains that would take place in a market. Industry participants that are more efficient than their competitors should enjoy the benefits of their efficiency. However, assessing the efficiency of industry participants is problematic. Complex analytical technologies such as benchmarking, Total Factor Productivity (TFP), data envelopment analysis (DEA) and other measures have been used to attempt to measure efficiency but there are some theoretical and practical issues with these methodologies. Assessments of efficiency can end up being somewhat subjective, making it problematic to resolve differences between those being assessed and those making the assessment.

Hence any CPI – X regime has problems in estimating the X factor. Choosing specific efficiency factors for each organisation is subjective, but using an industry or average estimate for X does not account for the positioning and performance of separate organisations. As discussed in 2.1.3, the use of costs of service forecasts for each year of the regulatory period reduces the reliance on CPI – X.

[2] This approach is discussed in ENERGEX's submission to the QCA Issues Paper *Electricity Distribution: Asset Valuation, Depreciation and Rate of Return*.

ENERGEX submits that the use of CPI – X formulae should be kept to a minimum, with more emphasis placed on incentive sharing mechanisms as discussed later.

2.2.1 not CPI – X on capital

ENERGEX submits that CPI – X should not be applied to capital expenditure. The DORC methodology for asset valuation[3] constitutes an appropriate approach for ensuring efficiency of capital expenditure.

In brief, DORC methodology:

- allows only the efficient cost of replacing assets with modern engineering equivalents; and
- optimises out any assets that do not meet specified design criteria.

Hence DNSPs have a very strong incentive to ensure that capital expenditure is efficient, in that non-efficient expenditure will be optimised out of the asset base and hence attract no return.

Also, the Regulator can review capital expenditure forecasts independently to ensure that planned expenditure is efficient.

The 1997 review of DNSPs in Queensland applied an X factor as well as DORC optimisation to capital expenditure, which unreasonably penalised capital values of DNSPs.

2.2.2 perhaps CPI – x on operating

ENERGEX concedes that CPI – x may have a place in assessing operating and maintenance expenditure (opex) forecasts. As discussed under the preceding issue, ENERGEX submits that operating expenditure forecasts should be used as components of the building block approach each year of the regulatory period. Such forecasts should be developed by the DNSPs but may be reviewed by regulators, perhaps using a CPI – x approach.

Applying CPI – x to forecast operating expenditure has all the problems discussed above, namely:

- difficulty of estimating x; and
- reasonableness of the level of operating expenditure in the first year.

Benchmarking, TFP, and DEA have the problems of data definition:

- organisations have different definitions of operating expenditure;

[3] As discussed in ENERGEX's submission to the QCA issue paper *Electricity Distribution: Asset Valuation, Depreciation and Rate of Return*.

- expenditure such as pole replacement may be expensed in some DNSPs and capitalised in others;
- operating costs may legitimately be higher due to factors such as vegetation growth rates or storms;
- historical rates of maintenance affect current requirements;
- deferring maintenance to keep expenditure low will eventually catch up.

ENERGEX believes that, in the absence of more acceptable incentive regulation of operating expenditure, CPI – x may be used to assess operating expenditure forecasts. The efficiency factor is applied only to operating expenditure and might therefore be called "little x". Such a "little x" factor method of regulation was used by IPART in the recent review of DNSPs in NSW.

In NSW, the "little x" factor was set following a benchmarking study. While an analytical study, such as DEA, could also be undertaken in Queensland, this would be costly and take considerable time. At the end of the study, the "little x" factor may still be set subjectively to some extent.

2.2.3 CPI – X as a smoothing and sharing mechanism

ENERGEX submits that there is an important role for the CPI - X on total revenue in providing a mechanism for smoothing and sharing efficiency gains over the regulatory period. The X factor is calculated rather than set subjectively, and (apart from growth) represents the reduction in real prices to end-users.

In 2.1.3, ENERGEX submitted that revenue caps should be calculated each year. These will vary according to capital expenditure forecasts, operating expenditure forecasts, and actual levels of expenditure taking into account efficiency gains.

ENERGEX submits that the revenue caps should be smoothed to avoid consequent price variations.

There are many options for smoothing:

- within a single regulatory period
- straight line smoothing between initial and final year revenue caps; or
- smoothing that preserves the Net Present Value (NPV) of the series of revenue caps; or
- smoothing between regulatory period.

Modelling indicates that straight line smoothing will give the lowest price shocks between regulatory periods, but tends to have lower NPV.

2.3 **The Authority seeks comment on the use of cost passthrough under an incentive regulation regime.**

In a market, sellers who all have the same increase in costs, eg. taxes or statutory charges, will pass these through to consumers. For example, all businesses are likely to pass on the cost of GST net of wholesale sales tax offsets. Hence any regulatory regime should allow for pass through of costs that would apply similarly to incumbents and theoretical new entrants.

Regulated businesses must be allowed to pass on such costs which, by definition, could not have been forecast at the time of determining the revenue cap. For example, the 1997 review of DNSPs in Queensland could not have foreseen GST.

Costs of possible events, such as cyclones, have some allowance in terms of system design and maintenance budgets. However there should be more explicit recognition of risks in the revenue cap, eg. in terms of premiums or contingency funds.

Costs that were included but have been under- or over-forecast should be taken into account via a sharing mechanism as discussed in 2.5.

ENERGEX submits that the unforeseen costs should encompass both capital and operating expenditure, including but not limited to, the following issues:

- Government imposed requirements that are not yet defined, eg. service quality standards;
- market reforms that are not yet specified, eg. full retail contestability, where the market design is still being refined;
- government fees, charges and taxes, such as new or increased taxes;
- market fee rises, such as NEMMCO fees; and
- excessive regulatory or compliance costs.

Customers do not like frequent price changes, so some methodology is needed to smooth out any cost passthroughs. Frequency of reviews is discussed under the items 2.4 and 2.5.

2.4 **The Authority seeks comment on the optimum period for regulation for the first regulatory period.**

Regulatory reviews are costly for the industry and potential benefits of short regulatory periods need to be weighed against certain costs.

Queensland electricity industry participants will complete their first 3-year regulatory period in June 2000. Scarce regulatory resources may be more usefully directed to other industries that are less advanced.

ENERGEX supports longer regulatory periods, provided that:

- the revenue cap included reasonable capital and operating expenditure forecasts;
- there was pass through of non forecast costs; and
- there were appropriate sharing mechanisms for efficiencies and other gains.

2.5 **The Authority seeks comment on the appropriate sharing mechanisms for incentive regulation, including mechanisms to share the benefits of reasonable efficiency gains achieved within the regulatory period, gains arising from 'out-performance' of the regulatory mechanism; and 'windfall gains'.**

Regulation seeks to simulate the outcomes of a contestable market, and in particular share gains between producers and consumers. Regulatory regimes are far from perfect and may fail to deliver such market outcomes. However, further regulatory intervention must be balanced against potential costs.

For example, DNSPs may get a "windfall gain" from higher than expected sales in one year, tempting a regulator to review the revenue cap for subsequent years. Not only would such a review be very costly, it also creates the risk that further reviews might be needed if demand returned to forecast levels.

Hence it is preferable to set an appropriate sharing mechanism for the regulatory period, that needs minimal intervention. The mechanisms available for distributing any gains include:

- price paths where gains are passed on to customers over time;
- one-off price reductions;
- retention of gains by the organisation for a specified period of time; or
- any combination of these.

ENERGEX submits that the proposed method of using CPI – X smoothing of individual year revenue caps acts as a glide path for sharing gains.

Only if annual revenue caps exceed smoothed revenue caps by a pre-determined tolerance range should it be necessary to adjust the revenue cap path and perhaps make a one-off price adjustment.

Windfall gains, eg. unexpected growth, could either be extracted as abnormal dividends, or else be taken into account with a revenue cap adjustment in the same way as abnormal costs.

Price paths that distribute any gains to customers over two regulatory periods will:

- smooth any transition to new price levels
- reduce business distortions formed from the tendency to defer cost savings until the first year of new regulatory period.

2.6 **The Authority seeks comment on:**
the appropriate methodology for determining prescribed distribution services and excluded distribution services; and
the services to be included as prescribed distribution services.

ENERGEX submits that there is no need for services to be prescribed where there is a functioning contestable market for provision of such services.

For example, the market in contestable metering for Tranches 1, 2 and 3 means that this need not be prescribed.

Where the market is still developing, and especially where there is considered to be an obligation for someone to provide the service, then services probably need to be prescribed. ENERGEX would like to work with the QCA on clarifying prescribed services.