



Draft Decision

**Form of Regulation of Electricity
Distribution to commence from
1 July 2005**

April 2003

SUBMISSIONS

Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). It therefore invites submissions from interested parties concerning its review of the form of regulation of Queensland electricity distribution prices.

Written submissions should be sent to the address below. While the Authority does not necessarily require submissions in any particular format, it would be appreciated if two printed copies are provided together with an electronic version on disk (Microsoft Word format) or by e-mail. Submissions, comments or inquiries regarding this paper should be directed to:

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The **closing date** for submissions is 9 May 2003.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two copies of each version of these submissions (that is, the complete version and another excising confidential information) could be provided. Again, it would be appreciated if each version could be provided on disk. Where it is unclear why a submission has been marked "confidential", the status of the submission will be discussed with the person making the submission.

While the Authority will endeavour to identify and protect material claimed as confidential as well as exempt documents (within the meaning of the *Freedom of Information (FOI) Act 1989*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997*, the Authority must take all reasonable steps to ensure the information is not disclosed without the person's consent, provided the Authority is satisfied that the person's belief is justified and that the disclosure of the information would not be in the public interest. Notwithstanding this, there is a possibility that the Authority may be required to reveal confidential information as a result of an FOI request.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at the Brisbane office of the Authority, or on its website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact the Authority on (07) 3222 0555.

Information about the role and current activities of the Authority, including copies of reports, papers and submissions can also be found on the Authority's website.

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1. INTRODUCTION

The Queensland Competition Authority's responsibilities with respect to electricity are set out in the Electricity – National Scheme (Queensland) Act 1997, which gives effect to the National Electricity Code (the Code). The Code sets out the objectives for the National Electricity Market, and in particular provides for “a regime of light-handed regulation of the market to achieve the market objectives”. The Code provides for the Authority to regulate distribution prices from 19 December 2000 and to prepare ring-fencing guidelines. The Authority also has responsibilities under the Electricity Act 1994, which provides that the Authority may prepare and enforce conduct rules, and requires the Authority to monitor standards of service quality if issued by the relevant Minister.

1.1 The current review

This draft decision proposes the form of regulation to apply to Queensland electricity distributors for the regulatory period commencing 1 July 2005.

The Authority's Final Determination on the Regulation of Electricity Distribution (QCA 2001) set the regulatory framework for 1 July 2001 to 30 June 2005. In its Final Determination, the Authority opted to regulate the Queensland electricity distribution networks by setting a fixed revenue cap for each of the four years of the proposed initial regulatory period, along with some secondary price controls to limit price shocks to customers.

Section 6.10.3(d) of the Code requires that, if the Authority proposes to change from the current form of regulation, it must give two years prior notice to distributors of the new form of regulation to apply from the commencement of the next regulatory period and publish a description of the process and timetable for re-setting the form of regulation that allows all affected parties to participate.

The current regulatory arrangements (based on a fixed revenue cap) have been in place for just under two years. In that time, the Authority has received one set of regulatory accounts (for 2001-02) from each distributor, which provides insufficient information for the Authority to satisfactorily judge the performance of both distributors under the current arrangements or gain sufficient insight to determine whether a change to the form of regulation is warranted. The Authority shares the views of both distributors and some stakeholders that a more light-handed form of regulation is an appropriate goal for the regulation of the electricity distribution sector in Queensland. The difficult issue is determining the timing of the transition to a more light-handed form of regulation. In the Authority's view, the timing is dependent on a number of factors, including the willingness and readiness of the distributors to move down that path. It is clear from the distributors' submissions that each has a different view as to the appropriate timing of the transition for their business. Other factors the Authority has considered include the views of the distributors' customers and other key stakeholders, relevant public interest considerations and the evolution of regulatory thinking and practice in Australia and internationally.

In light of all these issues, the Authority is minded to maintain the current form of regulation for the next regulatory period.

Had the Authority been able to make this decision at a later date, it may have arrived at a different conclusion in light of the greater information that would have been available. In arriving at this position, the Authority released a Discussion Paper in October 2002 to assist stakeholders in making submissions to the review and to provide a description of the process and timetable for re-setting the form of regulation. The Authority received ten submissions, which are available on its website at www.qca.org.au.

As highlighted in the Discussion Paper, the current review focuses on the form of regulation only. There are numerous issues relevant to the implementation and detail of the next regulatory arrangements that the Authority will address once the form of regulation is settled, such as how the initial level of allowed revenues or prices are set, the magnitude of any X factor and any explicit linking of service quality to allowed revenues or prices that is deemed appropriate.

2. CRITERIA FOR CHOOSING THE FORM OF REGULATION

The Authority's Discussion Paper included the following objectives that have traditionally been given high priority by regulators in assessing the three forms of regulation stipulated in the Code:

- minimise the overall cost of volume risk;
- provide distributors with incentives to set efficient prices;
- provide flexibility in pricing design;
- not be highly sensitive to inaccurate volume forecasts;
- provide incentives to reduce costs;
- not constitute a barrier to demand management;
- be transparent; and
- require minimal mid-period adjustments of the revenue or price caps.

The Authority sought the views of stakeholders on what criteria the form of regulation should be assessed against and the relative importance of each of these.

Volume risk

The majority of submissions mentioned volume risk as being an important criterion in evaluating the form of regulation.

Professor Hollis and Queensland Treasury Corporation (QTC) thought volume risk was the most important criterion of those nominated by the Authority. Queensland Treasury noted that there was a need to allow for the appropriate sharing of risks between customers (through prices) and service providers (through profits).

Integral Energy thought volume risk was of considerable concern to distributors and customers. It also argued that risk should be allocated to parties depending on their capacity to manage the risk. Ergon Energy shared this view.

Ergon Energy considered that minimising volume risk was an essential objective for it because of a limited ability to absorb this risk due to its operating environment. Ergon Energy noted several types of volume risk:

- accuracy of the volume forecast – more important for price caps if actual volume is less than forecast volume;
- asymmetrical costs – distributors have to increase network capacity if volume grows. However, if volume declines they are generally unable to reduce capacity; and
- a mismatch of cost drivers to revenue drivers – for example, MWs is only a proxy for changes in demand, and does not represent a true driver of network costs.

Incentive to set efficient prices

A number of submissions (Energex, Queensland Treasury, Integral Energy and Incitec) supported the provision of incentives to set efficient prices. However, Professor Hollis dismissed the criteria as having no practical relevance because demand for electricity is so inelastic.

Ergon Energy considered it essential that sufficient incentives were provided to ensure that prices are set efficiently, but that the form of regulation by itself was unlikely to provide these incentives, particularly while the Government's Maximum Uniform Tariff policy is in place.

Provide flexibility in pricing design

A number of submissions (Ergon Energy, Energex, Queensland Treasury and the Australian Gas Association (AGA)) emphasised the importance of this criterion.

Ergon Energy maintained it was of high importance as the form of regulation in the next period needs to be flexible in order to permit new charges, reflecting:

- the possibility of full retail contestability;
- the possibility of unbundling the franchise tariff; and
- a general move towards more detailed prices for small customers.

Ergon Energy also suggested that secondary pricing controls, such as the requirement for prices to be between incremental cost and stand alone cost, should not limit distributors' ability to take account of over- or under-capacity of the network in their pricing.

Energex argued that price flexibility was required to emulate a workably competitive market, with higher profits possibly justified in certain circumstances.

Queensland Treasury considered that price flexibility had direct application to demand management.

Not be highly sensitive to inaccurate volume forecasts

Apart from Ergon Energy, most submissions did not mention this criterion.

Ergon Energy argued that its network was highly influenced by natural and economic elements which cannot be easily foreseen or based on historical precedents. Ergon Energy considered it essential that the form of regulation should minimise the effects of the inevitable variation between forecasts and actuals and give certainty of earnings within this volatile environment. Ergon Energy recommended that the Authority explore the practical application of a methodology that indexes the allowance for revenue roll forward based on the previous year's actual results.

Provide incentives to reduce costs

While Ergon Energy considered that the incentive to reduce costs should have a high priority, Ergon Energy and Queensland Treasury noted that this criterion was not very important in deciding the form of regulation but was more relevant to the way that form of regulation is implemented. In particular, it was suggested that the extent to which the form of regulation

drives the distributor to reduce costs was more linked with issues such as initial price adjustments, efficiency carry-over schemes and the setting of benchmarks and ‘X’ factors.

Ergon Energy stated that, in an ideal environment, managing demand peaks rather than restricting volume would be optimal in order to limit its costs. It also noted that volume was not an ideal cost driver, as costs do not vary with volume but rather are determined at the time of customer connection. Ergon Energy suggested that more appropriate cost drivers were customer numbers, demand, length of distribution line, and service reliability.

Not constitute a barrier to demand management

Few submissions discussed this criterion. Of those that did, all were supportive of demand management.

Ergon Energy considered demand management to be an essential objective but not as a result of the form of regulation, but rather pricing efficiency, which provides dynamic signals to customers about the cost of their network usage. It also pointed out that growth promotion and demand management were not mutually exclusive. In its view, true demand management involved aligning revenue drivers with cost drivers, which was presently occurring to a large extent in the contestable market.

Professor Hollis indicated that it was desirable for the form of regulation to allow more flexibility to encourage demand side management programmes and that revenue caps are more helpful in that respect than price caps.

Integral Energy disputed the view in the Discussion Paper that there was a trade-off between pricing efficiency and demand management and contended that efficient network pricing would provide dynamic signals to customers regarding the cost of their network usage. This would also inform a distributor about how efficiently it was allocating resources in expanding or enhancing the network.

Queensland Treasury noted recognition of demand management objectives in its preference for a weighted average price cap, which could send signals to the market to encourage desired consumption patterns.

Transparency

A number of submissions (Ergon Energy, Professor Hollis, Queensland Treasury) commented on the importance of transparency.

Ergon Energy suggested that transparency was of low importance because complexity in regulation was not an issue as long as all parties understood the process and it resulted in a low level of risk for the distributor.

Professor Hollis concluded differently, noting that the Authority will have accumulated several years of experience in using the revenue cap by 2005. Experience with the regulatory scheme was especially important for the regulator and changing to a new regime would be expensive for all parties.

Queensland Treasury supported minimising regulatory complexity.

Require minimal mid-period adjustments of the revenue or price caps

Only Ergon Energy commented on this criterion. It noted that mid-period adjustments were of low concern. It would prefer to have a form of regulation that used actual indices, with the use of a deadband to minimise mid-period adjustments.

2.1 Additional criteria proposed in submissions

A number of additional criteria were proposed in submissions to assess the appropriate form of regulation. These included:

- restrain monopoly rents while permitting other rents (Energex);
- provide choice and greater customer focus (Energex);
- provide flexibility in price and profit controls (Energex);
- provide incentives for efficiency (Energex);
- provide strong incentives for innovation and investment (Energex);
- ensure consistency with legal requirements (Energex);
- provide incentives to maintain and improve service and reliability standards (Integral Energy);
- provide incentives to improve operating and maintenance practices (Integral Energy);
- facilitate stable and cost reflective end-user prices (Integral Energy);
- facilitate certainty of adequate returns on capital through a regulatory structure that is consistently applied over time (Integral Energy);
- facilitate efficient investment in electricity distribution (Integral Energy, Queensland Treasury);
- provide strong incentives and flexibility for service providers to pursue innovation and productivity gains (Queensland Treasury);
- allow the distributors to manage interest rate risk (QTC);
- promote workable competition (AGA & Energex); and
- allow for the use of benchmarking (Hollis).

In addition, AusCID outlined a set of regulatory principles to guide the development of the regulatory framework.

2.2 QCA Analysis*Authority's proposed criteria*

There was broad support for the criteria proposed by the Authority, with all of the submissions identifying issues related to at least one of the criteria proposed in the Discussion Paper.

The criteria nominated in submissions were generally not ranked in order of importance. Only Ergon Energy comprehensively ranked the criteria it nominated and did so in the context of its operating environment. Generally, submissions emphasised volume risk, price flexibility, forecasting variance and, to a lesser extent, efficient prices.

Furthermore, the incentive to reduce costs and promote demand management were seen by some as important but relatively neutral with respect to the choice of the form of regulation.

Accordingly, in forming an opinion on the appropriate form of regulation, the Authority has placed a greater weighting on those criteria presented in the Discussion Paper that were emphasised in submissions.

Additional criteria

Of the additional criteria that were proposed in submissions, the Authority considers some to be relatively neutral with respect to its choice of the form of regulation. For example, facilitating efficient investment and allowing for the use of benchmarking.

With the exception of the criterion to restrain monopoly rents while permitting other rents, the Authority considers Energex's criteria to be relevant to the choice of the form of regulation and has factored them into its decision-making. However, the Authority recognises that Energex's criteria were proposed in the context of its criticism of the cost-linked building block approach to regulation and its support for price service offerings. The cost-linking issue and Energex's price service offerings approach are discussed in Chapter 4.

The Authority considers that AusCID's regulatory principles are not directly related to the choice of the form of regulation but are more in the nature of overarching regulatory objectives with which the Authority concurs. In contrast to AusCID's view, the Authority considers that these regulatory principles can be achieved under the forms of regulation available to it under the Code.

Implementation issues

The Authority considers that a number of the additional criteria proposed in submissions relate to matters that will be addressed in the development and implementation of the detail of the regulatory arrangements to apply in the next period. For example, managing interest rate risk, allowing a commercial revenue stream and providing incentives to improve operating/maintenance practices and service/reliability standards.

In addition, the Authority indicated in the Discussion Paper that a range of other aspects concerning the regulatory framework, such as how the initial level of allowed revenues or prices are determined and the magnitude of the X factor, would be considered in the lead up to its 2005 Determination.

3. OPTIONS FOR THE FORM OF REGULATION

In its Discussion Paper, the Authority proposed the following four regulatory models that accord with the forms of regulation allowed under clause 6.10.5(b) of the Code:

- a fixed revenue cap;
- an average revenue cap;
- a weighted average price cap; and
- a hybrid revenue cap.

3.1 Stakeholders' preferred options

None of the submissions proposed alternative forms of regulation to those put forward in the Discussion Paper that were consistent with Code requirements.

Four of the ten submissions explicitly nominated one of the forms of regulation available under the Code. Energex, Queensland Treasury and Integral Energy nominated a weighted average price cap, while Ergon Energy offered qualified support for a hybrid revenue cap.

Other submissions included:

- discussion of specific issues regarding the forms of regulation allowed under the Code;
- discussion of issues in relation to how these forms of regulation might be implemented; and
- support for forms of regulation currently unavailable to the Authority under the Code.

While the Authority appreciates receiving all submissions, not all of the material was relevant to the current review, which is concerned specifically with the choice of either a revenue cap, weighted average price cap, or combination of the two, as stipulated under the Code, for use by the Authority in the next regulatory period.

3.2 Fixed revenue cap

There was limited support for the current fixed revenue cap approach. For example, most submissions acknowledged at least some positive features of fixed revenue caps and submissions from Powerlink, Incitec and Professor Hollis tended to favour continued use of this approach by the Authority. However, no submissions explicitly nominated it for use in the next regulatory period.

The positive attributes of fixed revenue caps that were seen as significant included:

- the fixed nature of a revenue cap provides revenue certainty for distributors;
- the incentive for distributors to reduce costs is strong because, with revenue fixed, it is the only way for distributors to increase profits;
- distributors have a high degree of flexibility in setting prices; and
- revenue caps do not include incentives to increase the volume of energy supplied, which is consistent with demand-side management objectives.

Powerlink pointed out that its transmission network was regulated by the ACCC with a fixed revenue cap and suggested that adopting the same form of regulation for distribution networks would minimise the potential for different commercial outcomes from similar investments in transmission and distribution networks that allow delivery of additional volume.

In contrast to the limited support for fixed revenue caps, a number of submissions were strongly critical of the approach. Key concerns included:

- to the extent that costs vary with electricity sales, fixing revenue means that distributors face profit risk as actual sales deviate from those forecast;
- fixed revenue caps do not provide incentives for distributors to grow their businesses because they are not allowed to retain increased revenues;
- the incentives to set efficient prices are not strong; and
- adjustment of fixed revenue caps for previous under- or over-recovery of revenue can result in price volatility.

Incitec queried whether there was flexibility of pricing under a fixed revenue cap because it was often faced with the claim that changing the existing pricing structure was not possible because of the fixed revenue cap.

A number of submissions, including those from Energex, AGA and the Australian Council for Infrastructure Development (AusCID), were critical of fixed revenue caps, but this criticism appeared to be more based on the assumption that they would be cost-linked. Section 4.1 discusses cost-linked regulation.

3.3 Average revenue cap

Only Ergon Energy and Integral Energy provided comments on the average revenue cap approach.

As with its comments on fixed revenue caps, Ergon Energy emphasised the volume risk that it would be subject to under an average revenue cap. Similarly, Integral Energy stated that any greater pricing certainty under this approach would be at the expense of greater risk in earnings volatility. Integral Energy also argued that average revenue caps were more suited to situations where costs were largely variable, which is not the case for electricity distributors, whose costs are largely fixed.

3.4 Weighted average price cap

There was most support in submissions for a weighted average price cap. Energex, Integral Energy and Queensland Treasury all explicitly nominated this approach. The key positive attributes of weighted average price caps that were cited in these and other submissions included:

- greater profit certainty than under other forms of regulation because, if prices are constructed to reflect marginal costs, revenue should change in line with the underlying costs of supply;
- a strong incentive to develop efficient prices in order to maximise profits and minimise volume risk;

- less price volatility than with forms of regulation requiring a correction mechanism, as prices are not adjusted for under- or over-recovery of revenue; and
- a more direct flow through of productivity improvements to regulated prices.

However, Energex’s support for a weighted average price cap appeared to be primarily based on the assumption that it would not be cost-linked.

There was little criticism of weighted average price caps, although Ergon Energy indicated that it would be exposed to significant volume risk under a weighted average price cap and that the approach was highly sensitive to inaccurate volume forecasts.

3.5 Hybrid revenue cap

Apart from being nominated by Ergon Energy as its preferred option, the hybrid revenue cap approach did not attract much support in submissions.

Ergon Energy proposed a version of the hybrid revenue cap in which the fixed component would cover the costs associated with the network at its current capacity while the variable component would cover the costs associated with additions to the existing network. The variable component would be based on key cost drivers such as customer numbers, capacity of the network and kilometres of line length. Total allowed revenue would only be adjusted if changes in the cost drivers resulted in a revised level of revenue beyond a ‘deadband’ around the original forecast.

The key positive features of the hybrid revenue cap that Ergon Energy suggested were significant in the current environment and given the nature of its own network were that it would:

- minimise volume and cost risks by allowing revenue to increase in line with key cost drivers;
- not be highly sensitive to inaccurate volume forecasts;
- allow flexibility in pricing design; and
- provide incentives to reduce costs.

Integral Energy noted that a hybrid revenue cap would bring greater earnings certainty. However, it felt that underlying prices would still vary depending on output levels and an error correction mechanism would be required. Moreover, while it would be possible to ensure close alignment of marginal revenue and marginal costs under a hybrid revenue cap, there was typically great difficulty in reaching agreement on the parameters to determine allowed revenue. Integral Energy also noted that frequent adjustment of these parameters would reduce certainty.

Queensland Treasury Corporation argued that a hybrid approach had the potential to address the issue of compensating for risks such as interest rate risk, but acknowledged the difficulties inherent in this approach, including potentially compromising objectives relating to transparency and administrative difficulties.

3.6 Other issues

Uniformity of regulation

In its Discussion Paper, the Authority sought comments on the possibility of using different forms of regulation for the two distributors.

Only three submissions addressed this issue. Two argued for the use of the same form of regulation for both distributors. Queensland Treasury argued that it would be desirable to use the same form of regulation for both distributors in order to minimise regulatory complexity. It further argued that the form of regulation could be chosen on the basis of what was most suitable for electricity distribution businesses generally and that any differences between Energex and Ergon Energy could be best addressed through the implementation of the form of regulation. Also, as noted in section 3.3, Powerlink argued for consistency in the form of regulation used to regulate transmission and distribution networks, implying that the same form of regulation should be used for both distributors.

In contrast, both Ergon Energy and Energex argued that there would be scope for using different forms of regulation for the two distributors and even for different parts of the same distribution business, although neither explicitly proposed such arrangements.

3.7 QCA analysis

Given that Ergon Energy and Energex have proposed different forms of regulation, an initial question is whether it would be appropriate to use different forms of regulation within the same jurisdiction, in recognition of the different operating environments of the two distributors and whether this would fit with the regulatory framework provided by the Code.

While no other regulator of electricity distributors in Australia has used different forms of regulation within the one jurisdiction to date, there does not appear to be anything in the Code to prevent this.

As outlined in the Discussion Paper, Energex and Ergon Energy differ significantly in terms of the physical characteristics of the networks they operate as well as their organisational histories and structures. The physical characteristics of Ergon Energy's network, in particular, make it an unusual distributor, not just in Australia but in the world. These differences, together with the fact that the forms of regulation available to the Authority embody different risks and incentives for distributors that cannot be mimicked by details of implementation, explain why the distributors have nominated different forms of regulation for the next regulatory period.

The Authority acknowledges that using different forms of regulation for each distributor may have some drawbacks, such as increasing the complexity of the regulatory task and potentially distorting economic signals where the distributors' networks meet, due to the different economic incentives that each of them would be subject to under different forms of regulation. However, it believes that any drawbacks would be marginal and would be outweighed by the benefits for both distributors and their customers associated with using the approach that best suits each distributors' particular circumstances. In light of this, the Authority assessed the respective arguments raised by Ergon Energy and Energex in favour of different forms of regulation independently, recognising that their interests were not necessarily complementary.

Ergon Energy

Ergon Energy's preference for a hybrid revenue cap appears to be due mainly to its concerns regarding volume risk. The Authority acknowledges Ergon Energy's concerns to an extent, and therefore does not believe it would be prudent to apply a weighted average price cap to Ergon Energy in the next regulatory period given the greater volume risk it would face under such an approach. Beyond the next regulatory period, the Authority agrees with Ergon Energy's assessment that it is likely to be in a better position to move to a weighted average price cap. This is mainly because Ergon Energy will have gained several more years of experience as a consolidated entity operating its network and is therefore likely to have improved its ability to manage the business risks that it faces.

While acknowledging Ergon Energy’s concerns about volume risk, the Authority believes they are perhaps overstated and, if necessary, could be alleviated by actions separate to the choice of the form of regulation. For example, the form of regulation should not be chosen to mitigate risks faced by distributors, such as asset stranding, that could be more directly (and perhaps more appropriately) addressed through contractual arrangements between distributors and customers. Also, the volume risk that arises because revenue drivers differ from cost drivers is a direct result of distributors’ continued over-reliance on volume-based charges, which do not reflect the essentially fixed-cost nature of distribution networks or the true drivers of variable costs, not the form of regulation. Any problems that arise due to the inappropriate use of volume as a driver of distribution costs could be addressed by using more suitable cost drivers, such as those proposed by Ergon Energy, in setting allowed revenue or prices under any of the forms of regulation. These are matters that the Authority will address in developing the detail of the next regulatory arrangements.

As a result, the Authority is not convinced that the risks faced by Ergon Energy are sufficient to warrant the use of a hybrid revenue cap which could result in an inequitable sharing of volume risk. Specifically, by allowing revenues to closely track costs, the hybrid cap would limit Ergon Energy’s exposure to volume risk, while at the same time increasing the volume risk borne by Ergon Energy’s customers. The Authority is also concerned that Ergon Energy’s hybrid revenue cap, by allowing revenues to closely track costs, would approach de facto rate of return regulation, which is proscribed under the Code.

In addition, an important implication of the use of a hybrid revenue cap would be that the incentive for Ergon Energy to minimise costs, including adopting cost-minimising innovations, would be reduced because revenue would be allowed to track movements in costs more closely than under a fixed revenue or price cap. This would be a significant concern while cost efficiency remains a key goal of regulation.

To the extent that Ergon Energy’s proposed ‘deadband’ around the hybrid revenue cap would prevent revenue from exactly tracking costs each year of the regulatory period, Ergon Energy’s model would increasingly resemble a fixed revenue cap that has an adjustment mechanism in the event of significant deviations in actual costs from the levels forecast (much like the current arrangements). However, it would appear that Ergon Energy envisages the deadband being small to allow revenue to more closely track costs than under the current fixed revenue cap arrangements.

On balance, the Authority has decided that the fixed revenue cap approach remains the most suitable form of regulation for Ergon Energy, and that Ergon Energy’s specific concerns, particularly in relation to volume risk, can be largely addressed either within this framework, or through other avenues available to Ergon Energy.

Energex

Energex’s support for a weighted average price cap is based on its criticisms of the current fixed revenue cap arrangements and its assessment that a price cap is the best mechanism under the Code to implement its price-service offerings approach. However, Energex’s preferred approach represents a significant break with prevailing regulatory practice in Australia, because it rejects the use of a building block or cost-linked approach to the setting of the price cap.

Energex argued that under a fixed revenue cap:

- there was limited involvement of the end-consumer in the regulatory process;
- with the exception of several very large customers, customers have no choice of services offered;

- there were limited incentives to invest and no incentives to innovate in terms of growing the market, because total revenues were capped;
- significant emphasis was placed on allocative efficiency (setting prices equal to efficient costs) and productive efficiency (cost cutting). But there was no potential for dynamic efficiency to be rewarded; and
- the revenue cap effectively restrained monopoly rents but did not provide the potential for other rents to be earned where these were necessary and deserved.

In relation to the first two points, the Authority does not accept that the form of regulation necessarily constrains distributors in adopting a more customer-focused approach, such as Energex envisages under its price-service offerings model. For example, there is general agreement that fixed revenue caps afford a high degree of pricing flexibility, allowing distributors to change the prices and types of services they offer relatively easily. This is clearly demonstrated by Aurora Energy’s proposal to the Office of the Tasmanian Energy Regulator that it be regulated with a fixed revenue cap, incorporating a preliminary range of price/service offerings based on customer research to establish areas of service which customers value and the amount they might be prepared to pay for service level increments (Aurora Energy 2002). The key limiting factor in such an approach is in fact the distributor’s own ability to forecast its costs and capital expenditure requirements in providing such services, so that allowed revenue can be set to cover these costs. The Authority was concerned by Incitec’s comment in its submission that it was often told that the structure of prices could not be changed because of the fixed revenue cap. This is clearly not the case.

In relation to the third point, the Authority concedes that fixing revenue may limit some incentives to innovate, insofar as the innovations relate to growing revenue. However, it notes that the incentive to innovate in order to reduce costs is stronger under a fixed revenue cap than under a weighted average price cap. Further, the Authority is concerned about moving to a weighted average price cap when there is insufficient evidence to conclude that the current arrangements have stripped most, if not all, monopoly rents from the distributors’ current prices, as Energex implies, and while customers have insufficient knowledge of what represents value for money in relation to distribution services to allow them to determine the appropriate balance of prices and service quality. (The distributors only commenced publicly reporting service quality data in February 2003.)

In relation to the last two points, the Authority acknowledges the current debate about whether the appropriate competitive benchmark to be applied for regulatory purposes is “workable competition” rather than perfect competition (Network Economics Consulting Group 2002). However, these are issues to be addressed regardless of the form of regulation and are more matters of implementation than determinants of form.

As noted earlier, Energex’s support for a weighted average price cap appeared to be based as much on an assumption that this form of regulation would not be cost-linked as it was on any particular strength of price caps per se. However, in rejecting the building block approach, Energex’s submission was somewhat vague on alternative approaches to setting the appropriate prices or price caps. There was a suggestion that the caps could be set by reference to external (domestic or international) industry benchmarks or, alternatively, a cost of service calculation establishing a lower boundary of acceptable prices moving forward. The latter option appears to be somewhat close to a building block approach. There also appears to be a presumption that, at the end of the current regulatory period, prices would be efficient due to the cost-based nature of the current regulatory arrangements.

However, the Authority is not sufficiently persuaded by Energex’s criticisms of the current fixed revenue cap arrangements, nor the means by which its proposed price cap would be

established, to move away from a cost-linked approach to regulation in the next regulatory period. Cost linked regulation is discussed in more detail in section 4.1 of Chapter 4.

Despite the support for a weighted average price cap in submissions and the Authority's wish to see regulation move toward more light-handed approaches in the future, it is not convinced that it would be prudent to apply a weighted average price cap to Energex in the next regulatory period. In large part, this reflects the Authority's reluctance to move away from the current fixed revenue cap arrangements so soon after implementing them and with only one year of data upon which to base this decision. This position was supported by Incitec's strong view that the assumptions and information that underpinned the current arrangements should be reviewed and tested against actual results from the current regulatory period to determine whether the fixed revenue cap has delivered against the original objectives.

Leaving aside the Authority's concerns about moving from the fixed revenue cap arrangements so soon after they were established, the Authority considers that a number of the advantages Energex attached to the price-service offerings approach are, in any event, deliverable under a fixed revenue cap. For example, the Authority is in the process of developing a service quality incentive regime to introduce as part of the next regulatory regime, regardless of the form of regulation. The regime should provide distributors with financial incentives to provide levels of service quality that reflect customer values. The regime is likely to impact on service quality across the entire network, much as Energex's proposed price-service offerings would, as well as potentially targeting specific areas of poor performance. While the Authority is yet to determine the exact nature of the regime, it has received informal support from a range of stakeholders, including both distributors, for its introduction.

Given the current lack of data available to the Authority regarding Energex's performance under the current arrangements, the Authority has decided to continue with the current fixed revenue cap form of regulation for Energex in the next regulatory period. It believes this approach is sufficiently flexible to allow Energex to adopt a more customer-focused approach if it chooses to do so.

As a general comment, the Authority notes that the main factor limiting its decision in relation to Energex's preferred weighted average price cap is a lack of sufficient information upon which to base any move from the recently introduced fixed revenue cap approach. If there were more useful information currently available, or if a decision on the future form of regulation could have been delayed to a later date when more information would have been available, the Authority may have come to a different conclusion. As that information starts to accumulate over the next two years, and should it indicate that moving to a weighted average price cap would be both possible and warranted, the Authority could take this into account in setting the term of the next regulatory regime.

4. OTHER ISSUES

Two matters, not related to the choice of the form of regulation, received considerable comment in submissions to the Authority.

4.1 Method for setting the level of revenue or prices

Despite the Authority's stated intention not to consider the method for setting levels of revenue or prices in this current review of the form of regulation, Energex explicitly tied its preference for a weighted average price cap to a cost de-linked approach, namely its price-service offerings approach. This is a type of 'pure' price control which the Authority considered in its Final Determination but elected not to implement, opting instead for fixed revenue caps based on the cost-linked or 'building block' approach.

Pure price controls aim to provide a light-handed regulatory approach with low compliance and regulatory costs through uncoupling allowed prices from the regulated organisation's costs of operation. Importantly, starting prices are assumed to be efficient and taken as given. Allowed price movements are then typically determined by reference to external measures of efficiency, such as total factor productivity, an efficient production frontier or best practice benchmarking. Under this approach, if the regulated firm out-performs the external efficiency benchmark, it retains some or all of the associated gains and alternatively suffers the consequences of an under-performance relative to the benchmark.

The in principle light-handed approach of pure price controls is often contrasted with the detailed regulatory involvement under cost-linked approaches, including approval of operating cost/capital expenditure budgets and cost of capital parameters of the regulated firm. It is argued that the focus on external efficiency benchmarks is more likely to encourage dynamic efficiency and provide incentives to deliver improved services than cost-based regulation. Nevertheless, considerable work is required to develop and agree the productivity measurement and benchmarking techniques that underpin a cost de-linked approach. This implies a significant lead-time before such an approach could be introduced.

International experience has been that cost de-linked approaches have been adopted within mature regulatory regimes where the existing price levels and initial cost base are 'about right'. In addition, the regulatory regimes included established and effective regulatory data collection, accounting and decision-making procedures.

Under Energex's price-service offerings approach, it appears that the Authority would approve the overall price constraint attached to each price-service offering at the commencement of the next regulatory period, with reference to high level rules or tests only. This could include reference to high level benchmarks applied to either prices or particular outputs, such as reliability. Energex appeared to consider that its prices would be efficient at the end of the current regulatory period as a result of the cost-based focus of the current fixed revenue cap. Energex suggested that, under a price-service offerings approach, regulators could refer to past cost of service or building block calculations, which could be considered to have washed any monopoly rents from the operation of the regulated firm.

In keeping with the intent of the Code, the Authority anticipates that regulation of distribution networks will evolve to become more light-handed over time and is therefore willing to accommodate, where it is appropriate, preferences by the distributors to move in this direction.

However, as the current (initial) set of regulatory arrangements only came into effect on 1 July 2001, the Authority is yet to accumulate the cost information to satisfy itself that current prices are 'about right', such that it could confidently move away from a building block

approach to a more light-handed approach. For example, the Authority has only recently received the first set of regulatory accounts, for 2001-02, from the distributors.

Accordingly, it would appear to be prudent for the Authority to retain the building block approach to setting revenue or prices for at least another regulatory period in order to be fully satisfied that the original objectives of this approach, such as eliminating monopoly rents, have been met. Such caution would be consistent with experience in other Australian and international jurisdictions.

In Australia, no regulator of electricity distribution networks has used anything other than a cost-linked approach to setting revenues or prices since regulation of separate distribution network businesses commenced in Victoria and NSW in the mid-1990s. Notwithstanding its support in the *National Access Regime* report for greater use of productivity-based approaches to setting access prices, the Productivity Commission (2002) remained unconvinced that prices could be fully decoupled from costs and felt that eliminating cost considerations entirely would increase risk for both regulators and regulated firms.

Internationally, regulators still rely on cost-linked approaches despite having moved some time ago to incentive-based, CPI-X forms of regulation. For example, in the UK, where distributors have been regulated using CPI-X regulation since the mid-1980s, building blocks are still used to set the price caps for the electricity and gas sectors (Utility Regulators Forum, 2002). Similarly, in a number of states in the United States, cost de-linked approaches, in which the ‘X’ factor in the CPI-X mechanism is based on total factor productivity, are still subject to resets that are based on the building block approach. Cost de-linked approaches have tended to be implemented where regulators were satisfied that existing prices were efficient. However, in many States, traditional rate-of-return regulation continues to be used (Utility Regulators Forum, 2002).

The Authority’s decision to use the building block approach does not limit its choice of the form of regulation for the next regulatory period. For example, when IPART (2002) recently decided to change the form of regulation from a fixed revenue cap approach to a weighted average price cap approach for NSW distributors from July 2004, it signalled that it would continue to use the building block approach in setting prices.

4.2 Price service offerings

While not a determinant of the Authority’s proposed form of regulation, the Authority acknowledges that price-service offerings may have a number of positive features. However, as highlighted by Energex’s own consultants, there are also practical difficulties with the approach that would need to be addressed before it would be seen as a viable option, at least at this early stage of electricity distribution regulation in Queensland. While these are generally matters to be considered in relation to implementation rather than in choosing the form of regulation, the Authority has taken this opportunity to raise these now in order to promote further research and debate.

A key concern, also raised by both of Energex’s consultants, relates to the high level of information asymmetry that exists between customers and distributors and the impact this would have on customer’s ability to make informed decisions about price-service offerings. Specifically, there has not been a sufficient period of cost-linked regulation, supported by publicly available regulatory accounting information and robust service quality data, for customers to have a clear idea about what the current levels of service quality actually are or whether the current prices for services represent fair value.

Another concern with the approach is the capacity of available technology to differentiate between individual customers in order to offer them a meaningful and real choice as part of any

price-service offering. Energex's proposal that, at least initially, customers' preferences for different price-service offerings would result in the same package for the entire network does not appear to provide real options to individuals. Further, the Authority considers that it is already feasible for Energex to provide tailored services to larger customers and address broad service quality issues within the current form of regulation.

Without a technical capacity to provide individuals with meaningful choices, locking in a particular option across the entire network, or very large sections of it, may also disadvantage those retailers whose target customers would prefer different price-service offerings. Until there are technical solutions that allow customers' quality of supply to be cost-effectively differentiated, it is not clear that, at the distribution level at least, price-service offerings provide a viable alternative. Even with appropriate and cost effective technical solutions to enable different products to be offered to individuals, it may well be that this approach would be better suited to application at the retail, rather than distribution, level.

5. PROCESSES AND TIMETABLE FOR 2005 DETERMINATION

With the release of this Draft Decision, the Authority is interested in receiving the views of stakeholders on its decision not to change from the current form of regulation in the next regulatory period commencing 1 July 2005. The closing date for receipt of submissions is 9 May 2003.

Following consideration of submissions received, the Authority will release its final decision on the form of regulation for the next regulatory period by 30 June 2003.

Once the form of regulation for the next regulatory period has been settled, the Authority will commence work on key inputs associated with the implementation and detail of the next regulatory arrangements for each distributor. Key steps to be completed will include:

- valuing each distributor's regulatory asset base – commencing mid-2003;
- assessing capital expenditure requirements, as well as reviewing the efficiency of capital expenditure incurred in the 2001-2005 regulatory period – commencing early 2004;
- assessing operating expenditure requirements, as well as reviewing the efficiency of operating costs incurred in the 2001-2005 regulatory period – commencing early 2004;
- assessing cost of capital and rate of return issues – commencing early 2004; and
- determining other aspects of the next regulatory arrangements, including a service quality incentive regime, secondary price controls and an efficiency carryover mechanism.

The Authority anticipates releasing a draft determination on the regulatory arrangements to apply from 1 July 2005 by late 2004. A final determination should be released in early 2005 in order to allow sufficient time for the approval of the distributors' prices for 2005-06. Throughout this process, the Authority will provide regular opportunities for stakeholders to have an input to decisions and to inform the Authority of their views on the full range of issues.

6. REFERENCES

- Aurora Energy, 2002. Submission to the Electricity Pricing Investigation December 2002
- IPART, 2002. Notice under clause 6.10.3 of the National Electricity Code – Economic Regulatory Arrangements.
- IPART, 2001. Form of regulation for NSW Electricity Network Charges, Discussion paper.
- Network Economics Consulting Group, 2002. Options for Changing Australia’s Regulation of Electricity Distributors.
- Productivity Commission, 2002. National Access Regime.
- Queensland Competition Authority, 2001. Final Determination: Regulation of Electricity Distribution, May.
- Utility Regulators Forum, 2002. Comparison of Building Blocks and Index-Based Approaches.

7. SUBMISSIONS RECEIVED

Submissions in response to the Authority's Discussion Paper on the *Review of the Form of Regulation of Electricity Distribution* were received from the following organisations:

Australian Gas Association

Australian Council for Infrastructure Development

Energex

Ergon Energy

Incitec

Integral Energy

Queensland Treasury

Queensland Treasury Corporation

Powerlink

Professor Aidan Hollis

Copies of all submissions are available on the Authority's website at www.qca.org.au.