

Utility Regulators Forum

Review of Nationally Consistent Pricing Principles

Discussion Paper

Introduction

This discussion paper summarises work undertaken by the Utility Regulators Forum (URF) to consider the development of a set of nationally consistent principles for electricity distribution pricing.

The URF considers that there are a number of advantages in developing a set of high-level pricing principles to apply across the jurisdictions. High-level principles allow flexibility for individual jurisdictions in terms of the approach they take to pricing principles at the more detailed level, while still reflecting the overall approach that most jurisdictional regulators currently take to pricing, taking into account the need for prices to be cost reflective, and to provide efficient signals for future investment and capacity levels.

The URF considers that the adoption of high level pricing principles would allow sufficient flexibility to reflect current differences in regulatory arrangements across states. While some states currently regulate electricity distribution under the National Electricity Code (the Code), others do so by Tariff Order. High level pricing principles could be applied to either set of arrangements. The URF is conscious of the current reforms taking place in the energy industry with respect to economic regulation. It is envisaged that the development of principles could also provide a useful first step for any review of the Code undertaken by the AEMC as part of the current National Energy Reforms.

The purpose of this discussion paper is to provide analysis as to the features of both high level and low level pricing principles and to seek stakeholder comment. Attachment A provides a summary of commonalities and differences in the pricing principles and approaches currently adopted by jurisdictional regulators compared to the principles set out in Part E of Chapter 6 of the National Electricity Code (the Code).

Stakeholders wishing to comment on this paper are invited to make their submissions by 29th July 2005. Submissions should be sent to:

URF Pricing Principles Discussion Paper

C/O Independent Pricing and Regulatory Tribunal of NSW

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Discussion

Prices can influence how customers use the distribution network and how distributors operate and maintain it. Important regulatory issues arise from the exclusive position of distributors in providing access to the electricity network, and as a monopoly body in setting prices.

The Code recognises the importance of providing a mechanism for managing these, and other effects, and sets out objectives for the economic regulation of distribution pricing, which translate into economic efficiency, revenue sufficiency and equity. Economic efficiency requires that prices give correct signals for the use, operation and expansion of the network.

High level principles

The review of jurisdictional differences and commonalities in pricing principles, conducted on behalf of the URF, revealed that a common feature across jurisdictional regulators is that none have chosen to implement the pricing principles outlined in Part E of the Code, having instead chosen to institute alternative methodologies which differ across jurisdictions¹. However, the following appear to be common elements of the pricing principles currently being applied by most jurisdictional regulators:

- that prices should lie on or between the upper and lower bounds of avoidable cost and stand alone cost for economically efficient prices; and
- that prices should signal efficient economic costs of service provision by:
 - having regard to the level of available network capacity; and
 - signalling the impact of additional usage on future investment costs.

These principles are high level in that they do not prescribe the prices that distributors should charge for customers' use of the distribution network service. These objectives provide signposts for pricing, they do not provide simple rules. As a result, pricing decisions will involve a significant element of judgement and subjectivity. To be effective the regulatory approach must allow for these practical limitations.

Upper and lower bounds

Subject to certain caveats, prices outside the upper and lower bounds of avoidable and stand alone cost encourage inefficient use of resources:

- avoidable costs represent the lower bound to efficient prices because where price is less than avoidable cost the price faced by the customer results in an under recovery of direct costs incurred by the supplier. In a competitive market, where a provider does not have access to captured customers this

¹ This has been primarily as a result of concerns regarding a lack of flexibility in the Code and implications associated with the implementation of the Code's approach for regulatory efficiency and effectiveness.

would result in losses being incurred by the producer and the producer choosing not to supply that customer.

In a regulated market under recovery of direct costs from one group of customers may result in the foregone revenue being recovered from other customers. This outcome is inefficient as some customers pay less than the costs incurred in supplying them the service which is likely to result in their over-use of the service whilst other customers pay more than the costs of supplying the service resulting in their under-use of the service.²

- prices based on the stand alone costs of supply are equivalent to the prices that would be charged by a viable new entrant. That is they represent the price charged by the next best alternative available to consumers of the service. In that sense they represent the upper bound of efficient prices for that service. Where the price is higher than stand alone cost of supply, the consumer is overpaying for the services. Prices above the stand alone costs can be sustained in the long run only through entry barriers or other restrictions that prevent bypass in these circumstances. In a competitive market, another business will enter the market and offer the customer a price equal to the stand alone cost of supply or the customer will choose another competitive supply option priced below the stand alone cost.

Efficient economic costs

The inclusion of the requirement that prices should signal efficient economic costs as a pricing principle, specifically having regard to the level of available network capacity and the impact of additional usage on future investment costs, aims to focus on the efficient, forward-looking costs of meeting additional network loads. Where prices incorporate forward looking costs a number of elements are affected, in particular:

- customers' use of the distribution network,
- distributors operation and maintenance of the network; and
- the level of investment required to expand capacity.

The benefit of including this principle is to further enhance efficiency by giving correct signals for the use, operation and expansion of the network which encompasses both dynamic and allocative efficiency.

Where prices based on 'economic' incremental costs under-recover fixed and common costs provided for in the allowed revenues, the shortfall should be made up in a manner that minimises the effect on consumption and investment while having regard to the impact on users. As noted in footnote 2 Ramsey prices have the effect of minimising the distortion of demand.

² In markets subject to scale economies and declining average costs of supply to sustain the suppliers financial viability fixed and common costs including a profit margin have to be recovered in addition to direct or marginal costs of supply. Recovery of these costs by means of Ramsey pricing which seeks to minimise the distortion of demand is considered to give the most efficient price signals in these circumstances.

While not strictly a ‘pricing principle’, there can also be a case for requiring distributors to address this information asymmetry distortion by providing information to users on matters such as customer class price levels and structures, service standards, underlying costs, price derivation methods and rationale and medium term price and service strategies. A requirement to publish such information would allow current and potential distribution network users to understand the basis of prices.

Rationale

The adoption of high level principles acknowledges that distributors’ will have a greater understanding than regulators of their cost structures, users’ needs as reflected in demand patterns and the sensitivity of those demands to price signals, as well as network utilisation and the likelihood of the emergence of congestion.

This information is essential for efficient pricing. If the regulatory framework for determining overall network revenues or average prices provides unbiased incentives, the distributors should have commercial incentives to implement efficient price structures which optimise the use of existing networks and provide incentives for efficient investment in network expansion and/or non-network alternatives. Such a regulatory approach would also produce some exposure to relevant risks and provide some flexibility on the part of distributors to manage these risks and determine their tariffs.

Further, the adoption of high level principles does not prevent an individual regulator from developing additional principles or further lower level guidance they consider to be appropriate in the regulation of distribution network prices.

Low level principles

The use of low level principles would require greater prescription as to the prices that distributors may charge.

There are a number of difficulties associated with the use of more prescriptive pricing principles including that it would require greater knowledge, on the part of the regulator, of distributors’ cost structures, customers needs as reflected in demand patterns and the sensitivity of those demands to price signals and network utilisation and the likelihood of the emergence of congestion and commercial drivers of individual companies.

It is questionable whether the regulator should (or could) take on such a role and whether it would be possible for a more detailed level of principles to be appropriate across jurisdictions, company structure and ownership arrangements. Seeking agreement at a national level, on principles pitched at a level to reflect specific circumstances, would also be difficult. Further, low level principles can prove to be difficult to implement and unnecessarily restrictive.

Productivity Commission Gas Access Regime

The recently completed Productivity Commission Review of the Gas Access Regime also advocated amendments to the Gas Code's pricing principles (s.8.1 of the Gas Code).³

Of the six pricing principles advocated by the Productivity Commission the principles identified that are relevant to this exercise are that:

- Reference tariffs should:
 - generate revenue from each service that at least covers the directly attributable or incremental costs of providing the service; and
- Reference tariff structures should:
 - allow multi-part pricing and price discrimination when it aids efficiency.

In setting these principles the Productivity Commission also considered that “in light of possible changes to the Competition Principles Agreement to include appropriate pricing principles, it is important that the pricing principles in the Gas Access Regime are consistent with these principles”.⁴

The first point is consistent with the lower bound of the avoidable costs of providing the service. Whilst the Productivity Commission has not addressed the upper band of stand alone costs, there are sound economic reasons for its inclusion in the high level principles. The second point is essentially consistent with the principle of minimising demand distortions by applying Ramsey pricing, including two part or multipart pricing.

³ Report available at: <http://www.pc.gov.au/inquiry/gas/finalreport/index.html>

⁴ Review of the Gas Access Regime Productivity Commission December 2003 p. 211

ATTACHMENT A

Summary of National Electricity Code Pricing Requirements and Current Jurisdictional Arrangements

National Electricity Code Chapter 6 network pricing requirements

Chapter 6 of the Code sets out the principles and core objectives which are intended to apply to network pricing arrangements. Chapter 6 also sets out a number of core objectives intended to be achieved by the application of network pricing provisions. These are:

- efficiency in the use, operation, and maintenance of, and investment in, the network, and in the location of generation and demand;
- upstream and downstream competition;
- price stability; and
- equity.⁵

Chapter 6 Part D of the Code outlines the regulatory principles for determining a distributor's revenue requirement. Part D of the Code also requires that each participating jurisdiction appoint a jurisdictional regulator who is responsible for determining the distributor's annual revenue requirement.

In fulfilling its role under the Code the jurisdictional regulator must either follow the prescribed principles under Part E of the Code in translating the revenue requirement into network prices or develop alternative pricing principles in consultation with Code participants (Part E s.6.11). Those jurisdictions not covered by the Code have instituted alternative state based arrangements as outlined below.

Jurisdictional regulators have previously commented on Part E's methodology referring in particular to its:

1. mechanistic approach, notably the lack of scope for judgement;
2. involvement of the regulator, including the requirement to reach agreement at interim steps;
3. legal inconsistencies;
4. issues associated with regulatory efficiency and effectiveness;
5. inappropriateness for purposes for setting distribution prices; and
6. application was likely to deliver incorrect pricing signals⁶.

⁵ The National Electricity Code s.6.1.1(c)

⁶ - ESC Victoria Part E Prescribed Pricing Principles December 2003 (1-2)

Commonalities and differences in jurisdictional pricing principles

A common feature across jurisdictional regulators is that none have chosen to implement Part E's pricing principles, having instead chosen to institute alternative methodologies which differ across jurisdictions. The three jurisdictions operating under the Code, New South Wales (IPART), Queensland (QCA), the Australian Capital Territory (ICRC) have implemented pricing principles which differ from those contained in Part E. The remaining jurisdictions Victoria (ESC), South Australia (ESCOSA), Tasmania (Office of the Tasmanian Energy Regulator), Western Australia (Office of Energy) and the Northern Territory (UC) also apply alternative pricing principles to those prescribed in the Code.

IPART

In NSW IPART developed, and implemented in 1999, Pricing Principles and Methodologies (PPM) for prescribed electricity distribution services which combine a set of pricing principles together with a framework for translating principles into price outcomes.⁷ The key elements of the IPART's principles are:

- prices should be based on a well-defined and clearly explained methodology;
- price development should incorporate an analysis of the cost of service provision; and
- prices are to signal the economic costs of service provision by:
 - being subsidy free (i.e. between incremental costs and stand alone costs)
 - having regard to the level of available service capacity; and
 - signalling the impact of additional usage on future investment costs.⁸

Although IPART allows each distributor to be responsible for determining the structure of distribution tariffs, this freedom is accompanied by a responsibility to disclose information on medium term pricing strategies and the basis for determining tariffs. This information is to be made available through the distributors' Network Strategy Statement, provided at the beginning of the regulatory period, as well as an Annual Pricing Report prepared for the public at the time of annual price changes.

ICRC

The ICRC has adopted identical pricing principles to those introduced by IPART. The ICRC has also requested that ActewAGL provide a pricing strategy statement at the commencement of the regulatory period as well as an annual pricing statement explaining their charges for prescribed distribution services.

- opcit 1(3-4),

- IPART New South Wales Electricity Distribution Pricing 2004/05 to 2008/09: Final Report (5-6)

⁷ opcit 1 p.9

⁸ IPART New South Wales Electricity Distribution Pricing 2004/05 to 2008/09: Final Report

ESC VICTORIA

The regulation of distribution prices in Victoria is specified in the Victorian Tariff Order. Within that framework, the ESC has also adopted a similar approach to NSW and the ACT. However the ESC's pricing principles are less extensive and are limited to requiring that the following lower and upper bounds are satisfied:

- Tariffs for each customer should generate revenue in excess of the avoidable cost to service that customer; and
- Tariffs for each customer should generate revenue less than the cost of providing the service on a stand-alone basis to the customer.

In Victoria distributors are also required to produce an Annual Tariff Report. The Annual Tariff Report is to specify the distribution and transmission tariffs to be charged, describe the tariff policy used to determine the structure of tariffs and explain how the distributor has had regard to the pricing principles in setting its prices.⁹

The ESC has also proposed introducing an overarching tariff strategy report similar to that introduced by IPART.¹⁰ This would require the distributors to produce a tariff strategy report prior to the commencement of the 2006 regulatory period that provides information on what tariffs the distributors are proposing to charge, the structure of those tariffs, how tariffs and their structure are likely to be adjusted over the period, how the tariffs comply with the pricing principles and upon what basis the tariffs were formulated. These reports could also outline how the distributors are addressing network constraints through their tariff strategy, including the application of demand side management options.

QCA

The QCA approach places the onus on regulated businesses to develop their own pricing methodology by requiring each distributor to submit a *Pricing Principles Statement* at the beginning of each regulatory control period. This statement outlines the objectives and method to be used by the particular distributor to determine individual distribution prices. In contrast to NSW, ACT and VIC, the QCA must approve these statements and, once approved, the QCA will disallow the annual tariff schedules subsequently submitted only if they are inconsistent with the pricing principles statements.

The QCA also requires distributors to demonstrate how their proposed pricing methods meet economic efficiency criteria including:

- that the proposed tariffs do not involve cross-subsidies;
- that the structure of prices (that is, the balance of fixed, demand and energy components) is consistent with economic pricing principles; and

⁹ Electricity Distribution Price Determination 2001-05 – Volume II Price Controls p.16. s.2.3.13 (ii) (a)-(h)

¹⁰ Electricity Distribution Price Review Final Framework and Approach Volume 1 Guidance Paper June 2004

- that the proposed price structures have had regard to and are consistent with requirements for the future augmentation of the distribution system.

ESCOSA

ESCOSA sets distribution prices for ETSA Utilities under the provisions of a Pricing Order. ESCOSA will make its first Distribution Price Determination to apply from 1 July 2005. This price Determination will be made under the rules set out in the Pricing Order, unless there is a conflict between the Pricing Order and the Code. In accordance with clause 1.11 of the Pricing Order, the Code prevails.

The initial distribution tariffs for ETSA Utilities are set out in Schedule 4B of the Electricity Pricing Order. Under the Pricing Order ETSA is required to annually submit to ESCOSA a statement setting out its proposed tariffs for the next regulatory year, components of those tariffs and a demonstration of the compliance of these tariffs and tariff components with the methodology set out in Schedule 7 of the Order. ESCOSA must then approve these proposed tariffs. The Pricing Order does not contain explicit pricing principles that ETSA Utilities is required to adhere to.

OTTER

The Tasmanian electricity industry is regulated under the provisions of the Tasmanian Electricity Code (TasCode). TasCode is based on the National Electricity Code with variations to reflect differences between the Tasmanian market and the National Electricity Market. In addition the Regulator is required to comply with the Electricity Supply Industry (Price Control) Regulations 2003 in regard to undertaking price investigations and setting maximum prices.

The core objectives of the TasCode network pricing principles are identical to those contained within the National Electricity Code. However, as Aurora Energy is the sole distribution network and retail service provider, and it is not operating under the Code, it has not been considered necessary to regulate or oversight distribution tariff setting and hence to apply distribution pricing principles.

Tasmania is scheduled to join the NEM in May 2005 with retail contestability to commence in July 2006. As a consequence Aurora will require distribution tariffs from that time. In response the Regulator has proposed that "Aurora develop its distribution pricing policies in anticipation of the NEC" and further "that it would be prudent for Aurora to anticipate a regime of pricing principles reflecting those adopted by IPART in June 2002".¹¹

ERA, WA

Western Australia's electricity industry is currently undergoing significant change. The tariff principles that are to apply to distributors will operate under Chapter 7 of the Electricity Networks Access Code 2004. However, this legislation is still in the

¹¹ Letter from the Office of the Energy Regulator to Mr John Devereaux, General Manger, Networks Aurora Energy March 2004 available at: http://www.auroraenergy.com.au/pdf/projects/network_tariffs/Aurora_context_dx_tariffs_0403111.pdf

process of formulation. Currently, as the sole supplier of residential and small business electricity, Western Power determines its own tariffs and submits these to the Minister for Energy. The Minister then consults with ERA, which acts solely in an advisory capacity, and the tariffs are approved. The reference tariff structure must be between the bounds of:

- incremental cost of service provision; and
- stand-alone cost of service provision.

UC, NT

In the Northern Territory the UC is responsible for the regulation of network pricing under the Electricity Networks (Third Party Access) Code. There is currently one distributor in the NT, Power and Water Corporation (PowerWater), which is completely vertically integrated. The UC approves the annual schedule of individual network access tariffs submitted by PowerWater each year, requiring that the structure of network access tariffs is consistent with PowerWater's approved Pricing Principles Statement (which is prepared by PowerWater), the 'CPI-X' price cap constraint and the side constraints applying to the impact of any changes in tariffs on individual customers. This approach is therefore similar to that undertaken in Queensland by the QCA.

Overview of commonalities and differences

In summary, this review of jurisdictional pricing principles and has revealed that although there are differences regarding the extent to which principles are prescribed, a significant level of commonality exists, across jurisdictions regarding the pricing principles to ensure that distribution prices foster efficiency in the use, operation, maintenance of, and investment in, the network. There is also a considerable degree of consistency in the reporting frameworks required by jurisdictional regulators.

A common feature of jurisdictional distribution use of system pricing principles is that none have chosen to implement the pricing principles prescribed within Part E of the Code. Jurisdictions have instead chosen to implement their own principles as a result of concerns regarding a lack of flexibility and implications for regulatory efficiency and effectiveness.

At the same time, there is a considerable degree of commonality across the majority of jurisdictional regulators in the high level objectives of their distribution pricing principles and the specifics of those principles and their reporting requirements.

In summary, the key commonalities and differences both among/between the National Electricity Code (the Code) and across jurisdictions are:

- Chapter 6 of the Code contains a number of core objectives intended to be achieved by the application of network pricing provisions that focus on efficiency in the use, operation, and maintenance of, and investment in, the network, and in the location of generation and demand that are reflected in jurisdictional pricing principles;

- no jurisdiction has adopted the pricing principles contained within the Part E of the Code, including those that are subject to the Code for example New South Wales and Queensland;
- common reasons for not having adopted Part E include that it is considered prescriptive and that it may have adverse implications for regulatory efficiency and effectiveness; and
- although the pricing principles developed and adopted by jurisdictions, in place of Part E differ, for example NSW has ten pricing principles whilst Victoria has two, they do have common elements including that prices meet economic efficiency criteria by signalling the efficient economic cost of service provision.

The key difference between the methodologies introduced by jurisdictions is the extent to which principles are prescribed and whether prices and pricing strategies need to be approved by the regulators or simply made transparent to users.

The following in particular appear to be common elements of the pricing principles currently being applied by most jurisdictional regulators:

- that prices should lie on or between the upper and lower bounds for economically efficient prices; and
- that prices should signal efficient economic costs of service provision by:
 - being subsidy free;
 - having regard to the level of available network capacity; and
 - signalling the impact of additional usage on future investment costs.

A further common feature across jurisdictions is the requirement that pricing principles be accompanied by reporting requirements that place the responsibility on distributors to demonstrate compliance of their tariff structures with the pricing principles. Common reporting requirements can also be considered to form an important part of nationally consistent pricing arrangements. The principal elements of such reporting requirements could include, for example:

- an overarching tariff strategy report covering the full regulatory period;
- reports on amendments to the tariff strategy report within the period; and
- an annual tariff report providing information on prices for the current year and outlining variations from the tariff strategy report.