

Queensland Competition Authority
GPO Box 2257
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Re; - Request for Comments on Electricity Pricing Methodology and Tariff Structures.

Submitted by e-mail.

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General comment

The adoption of pricing signals that are evident and easily understood by retail customers is of considerable importance. The production and distribution of electricity is a highly capital intensive enterprise and in recent years the network expenditure costs have escalated substantially.

Retail customers have not been subject to any marketing or information dissemination regarding the potential to reduce this capital expenditure either directly or via pricing to domestic consumers. Instead customers have been provided with financial incentives to install either gas or solar hot water systems as part of a greenhouse gas reduction campaign. The consequent transfer of electricity load (for solar booster elements) from the overnight period to daytime and the actual loss of energy sales in the overnight period contributes to a deterioration of the system load factor. This is equivalent to running the networks in a less efficient manner.

The capital expenditure on upgrading and duplicating transmission lines and substations is largely driven by peak demand readings and forecasts. Consequently the adoption of suitable time of use energy pricing (a form of Demand Side Management) might well reduce the required network capital expenditure levels.

Most appropriate method to estimate the cost of energy for the future tariff years under review.

The cost of energy adopted should be a close approximation of the cost that an efficient retailer of national significance would face in building up a portfolio of purchase contracts to match the retailers load profile.

Such a retailer would be expected to have an active trading room and sales force seeking a diversity of load types. Major industrial loads exhibiting load factors of over 80 percent are contacted if possible for between 3 and 5 years ahead, with the load fully hedged by purchase contracts. General commercial and smaller industrial loads probably are contracted for 2 -3 years ahead while domestic customers may only have

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short term one year agreements. This pattern of building the retailers “book” of customers is matched by the establishment of purchase contracts to avoid the creation of a large unhedged load. The trading operations are used to buy or sell loads to match any variation in contracted load forecast driven for example by changes to economic conditions or long term weather forecasts of impending seasonal change.

Consequently the energy price for a given trading period is an amalgamation of many forward purchased contracts some of which may have been entered into up to five years in advance. These forward purchase contract prices are related to long run marginal costs but are modified by market forces regarding expectations of the supply and demand balance.

A retailer who adopts a conservative approach to risk management will avoid having a substantial un-hedged position and consequently would purchase a relatively small proportion of energy at the National Electricity Market spot prices.

A weighting of the volumes or percentage of energy purchased under forward contract conditions needs to be assessed by an industry study but it probably should be in the vicinity of 15 – 25 % contracted 3 years ahead; 25 to 50% contracted 2 years ahead, 50 to 75% contracted a year ahead of the trading period and 20 percent in the 11 months before and only 5 percent in the month before or on the spot market.

Environmental obligations.

Retailers plan ahead to the extent possible under varying state and national requirements regarding measures intended to enhance environmental conditions. Unfortunately the states have not co-ordinated their approach and this has caused an excess of regulation for retailers operating in several states. Consequently the retailer has forward forecasts of electricity sales expected to be secured and in establishing a hedged position for electricity energy will purchase auxiliary products such as Renewable Energy Certificates or Gas Certificates to meet legal obligations. As a market is available to buy or sell these products the inferred cost should be added to the electricity energy cost.

Should network costs be removed from retail tariffs and treated as a direct cost pass-through to customers.

For reasons of transparency the network charges should be separately identified. Network charges in Queensland have been a major contributor to the abnormally high percentage increases that have been experienced in recent years. For most domestic customers there is no awareness of how these increases are approved or what scrutiny is applied to ensure that networks are not undertaking capital works in excess of the basic requirements.

My understanding is that Networks are permitted a rate of return on their capital asset base to arrive at total annual revenue, and then the networks have considerable discretion in developing tariffs to particular customer categories. These categories include large customers who are offered contestable contracts and retail / domestic customers who are subject to the “Uniform tariff” applicable to their load.

Consideration should be given to fixing the network charges of Ergon and Energen applicable to domestic, commercial and small industrial consumers. This basically already exists in some of the Uniform tariffs in the form of “Service Charges”. While service charges do not fully recover network costs the principle of having a fixed component built into Uniform tariffs that are applicable across the State already exists. In other words regulate and set the network prices that apply to the smaller customers and then allocate the balance of the permitted annual revenue across the large contract customers.

Implications for the achievement of cost reflectivity and demand management if network costs were directly passed through.

The existing component of uniform tariffs that is related to network costs is the “service charge”. When these service charges were introduced in the March 1995 Price Determination the rates were an approximate measure of the direct network costs such as service line and metering costs for single phase, three phase customers and high voltage customers². Particular tariffs were nominated as applicable to particular customer connection requirements. Network costs were not a permitted term at the time, and an improvement in the customer’s awareness of costs would be to rename them Network charges.

Fixed and variable costs for Retailers.

This question needs to be considered only with respect to the customers taking supply under the uniform tariff structure. With respect to the contestable market retailers are free to choose the customer service model that they consider appropriate to the market position they wish to occupy. This may be a full service and premium price model or a minimal service bare bones energy price model.

Customers under the Uniform Tariff have a right to expect retail services that include accurate and timely billing, transparency of billing charges, advice and assistance regarding energy use and electricity applications, and services directed towards assisting the disadvantaged. Network services need to include prompt attention to requests for upgrades to supply capacity, extensions of services and observance of voltage levels and quality (avoidance of spikes etc).

Uniform tariff customers are not contracted to take any particular quantity of electricity and retailers rely on diversification across geographic areas and economic sectors to stabilise their customer category load forecasts. Retailers can face substantial energy purchase cost risks if consumers consumption increases or decreases from the forecast value. To some extent a Retailer faces a fixed energy purchase commitment but a variable revenue recovery situation since the volume of energy sold can vary substantially from forecasts.

Some form of “Take or Pay” energy tariff may have appeal to certain customers and some retailers.

² The service fee charges of \$7.60; \$25.56; and \$66.00 for nominated single phase supply, demand tariff with CT metering and high voltage electricity supply respectively. These rates were assessed as being only about half of the calculated costs, but larger increases caused unacceptable percentage price increases. Ref Private internal discussion paper on network pricing principles 30/01/1997.

The billing process (meter readings, plus a very complex and expensive bill calculation programs with large scale computer installations, then mail out and receipting process) is quite expensive and so the frequency of billing offers the potential of lowering absolute costs. As accounts increase due to tariff price rises pressure may develop on retailers to provide a more frequent bill so the absolute amount of the due payment is reduced.

How retail margins for an efficient retailer in SE Qld might be determined.

The retail margin for a particular year should not be pre-determined as a positive value. The margin is the difference between two large numbers, firstly the revenue earned and secondly the costs incurred in achieving that revenue. Energy retailers (gas or electricity) should be subject to the same commercial environment as retailers of any other product. This means that on average over a number of years the Electricity retailers should earn a market rate margin commensurate with the financial risk exposure of an economically efficient retailer.

The revenue received per unit sale is determined in part by tariff structure, so if the volume of sales or time of use varies then any structure other than a single flat energy rate will change the average price. The use of fixed charges (such as service charge) provides the retailer with some measure of stability in times of volume decrease. General supply tariffs that have a declining block rate tend to provide a reducing average price if the typical volume of sales to customers increases (as per a long hot summer). These declining block rate tariffs attract adverse comment on the grounds that it encourages additional consumption, but the price structure merely reflects the combination of a fixed charge (covering capital cost of equipment installed at consumer's premises) and a flat energy rate. This adverse criticism is actually a good example of what happens when there is poor transparency in tariff pricing signals.

The Uniform Tariff rates are capped by the potential of a customer accepting an offer from the contestable market. The lack of an active contestable market in other than the SE corner of Queensland for domestic consumers suggests that the network charges and structures applied to small customers is too high.

The NEM energy prices for supply delivered in central Queensland do not require substantial loss factor adjustment due to the presence of large scale generation in the region. This suggests that the network prices being levied against central Queensland domestic customers are out of line compared to the network prices charged against SE Queensland domestic customers.

The cost of energy purchases should be established in accordance with a process as outlined earlier in this submission. This becomes a benchmark energy purchase cost, and retailers are then free to seek an input cost below this benchmark (and hence improve their margin) or may fail to achieve the benchmark and so may end up with a zero or negative margin.

Escalation of Regulated tariffs.

The practice of applying a uniform percentage increase to the existing tariffs that has occurred for the past 14 + years has stifled the development of cost reflective tariff structures, and caused the continuation of obsolescent tariffs that were scheduled for removal in the forward tariff plans of the mid ninety's. The energy rates in the national market vary over time (both daily cycle, weekly cycle and seasonal) but a uniform percentage price increase fails to convey these market signals to the customers. Consequently we have a less efficient market.

Appropriate tariff structure development for the domestic and small business markets has been constrained in Queensland due to the tardy implementation of mass installation of suitable time of use metering (Smart meters). The lack of suitable metering that provides potential billing information of peak, off peak energy use, and peak demand and power factor has caused the adoption of tariff structures that are not optimal in providing customers with transparent pricing signals.

Achieving Price Certainty.

If the energy "benchmark" price is established as proposed above then it will incorporate the market view of contract prices for at least three years ahead, and these rates are basically long run marginal cost rates adjusted by the market perception of supply and demand balance. As such a moderate amount of stability should occur and the forecast benchmark in absolute \$ / MWh – peak and off peak become transparent values that can be monitored.

The network operators were / are? granted authorisations for the absolute level of revenue per annum they may raise for each of a three year period. I assume the networks develop network charges for each customer category on a per year basis so some price certainty already exists but is not evident to domestic customers.

The envisioned process would commence with the analysis and regulatory setting of the benchmark energy rates for the forward 16 quarters (4 years) at least in terms of peak and off peak periods. This is conventional basic forward pricing for contracts. The four years of data covers the time delays between establishing what the regulated tariffs shall be and the implementation date.

Retailers dealing with the Uniform tariffs should then submit material covering their other costs and their proposed tariff structures and rates for the three years ahead. There should be some basic "Template" tariff structures that all retailers must offer, but scope should exist for alternative structures to be trialled. The uniform template structures enable comparison between retailers on an "Apple to Apple" basis.

Reopening price decisions.

Events that could reopen pricing decisions would include:-

- National market disruptions to the supply / demand balance caused by a long term unusual supply shortfall. Examples would be the gas supply restrictions caused by Moomba SA plant failure and Longford Victoria plant failure. However drought normally takes several years to impact on

Hydro schemes and so should be incorporated in the standard forward market pricing of contracts.

- “Retailing” should not be protected from typical year to year variations in their margins. In some years they may show a loss. However if the actual average annual energy contract market rates vary by + / - 8 % compared to the forecast benchmark values for two years then a price review is justified.

If the event meets the trigger criteria, the pricing review will take some time to be completed. During this period the retailers may be exposed to very high spot or short term contract prices resulting in energy sales at a substantial loss. Retailers cannot really protect themselves against this risk. It is suggested that a mechanism that permits retailers to apply a short term surcharge so that their customers are made aware of the constrained market conditions be available.

Current tariffs and structures.

The use of the term “cost reflectivity” seems to be misused in this section. The discussion referring to the attraction or loss of retailers from the Queensland market is more about cost recovery than reflectivity. If retailers were permitted to have tariffs that had a large fixed component that ensured cost recovery they may wish to stay in the Queensland market, but the customer would not have a cost reflective tariff that was transparent regarding the price drivers.

Are any tariffs insufficient to recover the efficient cost of supply in SE Queensland?

I have no current information, but in the late 1980’s studies showed that typically farm tariffs were supplied at a very low margin, domestic was about right and general supply was providing very high margins.

There is the requirement to separate current energy costs from network charges before establishing if any tariff is mispriced.

Sending of appropriate price signals.

The lack of a practical time of use option for domestic customers is shameful in a situation where enormous amounts of capital expenditure is being directed to network augmentation. Substantial practical time of use tariffs were developed and trialled in SE Queensland many years ago with positive results. Domestic customers showed that load shifting was feasible thereby improving the system load factor.

Facilitation of retail contestable markets.

Contestable pricing offers are likely to have separate components for energy charges, network charges and other charges such as metering. These contract offers might show a forward price path for a three year period and thus some certainty.

Uniform tariffs in contrast roll all the costs into a single structure and pricing is only fixed for twelve months. Price increases have been substantially above CPI.

Tariff rationalisation.

Farm tariffs (T62 and T63) were 1996 just slightly below the equivalent general supply tariffs (T22) even though the network supply costs involved are typically greater for farm customers. In the intervening years the prices have been allowed to diverge. The withdrawal of the farm and irrigation tariffs (T65 and T66) over several years should be considered.

Tariff T37 was developed to directly market electricity against gas for heating applications. This was very successful and tended to introduce higher technology into many manufacturing processes. The concentration of the peak period rate in the early evening period was appropriate at the time of having system peak demands in winter. This is no longer the case. There is however an environmental argument that the use of electric heating technology in urban conditions (and especially in the Brisbane valley) reduces the risk of smog development. Transfer of this electric load to gas for example causes the products of combustion to be released to the atmosphere and potentially is smog inducing.

Studies in September 1996 showed that the existing water heating tariffs T31 and T33 were being applied for some end use applications in a manner that was not economically justified. Proposals were prepared for two new water heating tariffs T32 and T34 that would correct this situation and enable the progressive withdrawal of t31 and T33 from inappropriate applications.³

³ Draft report of Water Heating and Switchable Supplies Working Group September 1996.