Total Environment Centre

Suite 2, 89-97 Jones Street, Ultimo, NSW 2007
Ph: 02 9211 5022 | Fax: 02 9211 5033
www.tec.org.au

Submission to

AEMC Draft determination: Distribution Network Pricing Arrangements Rule October 2014

Mark Byrne
Energy Market Advocate
markb@tec.org.au

Total Environment Centre's National Electricity Market advocacy

Established in 1972 by pioneers of the Australian environmental movement, Total Environment Centre (TEC) is a veteran of more than 100 successful campaigns. For nearly 40 years, we have been working to protect this country's natural and urban environment, flagging the issues, driving debate, supporting community activism and pushing for better environmental policy and practice.

TEC has been involved in National Electricity Market (NEM) advocacy for ten years, arguing above all for greater utilisation of demand side participation — energy conservation and efficiency, demand management and decentralised generation — to meet Australia's electricity needs. By reforming the NEM we are working to contribute to climate change mitigation and improve other environmental outcomes of Australia's energy sector, while also constraining retail prices and improving the economic efficiency of the NEM — all in the long term interest of consumers, pursuant to the National Electricity Objective (NEO).

Introduction

TEC appreciates the opportunity to respond to this important rule change process. In principle, we support the move to more cost reflective network tariffs, as the intended change in consumer behaviour should dampen peak demand and therefore mitigate the incentive for networks to invest in augmentation capex. We are concerned that rules mandating a full recovery of distribution revenuess may distrort these price signals. We agree with the idea of a TSS and also an increased level of customer consultation.

However, in practice we question the AEMC's reliance on LRMC to structure network tariffs, and consider that the draft rule does not give sufficient direction to networks or to the AER to prevent LRMC being abused, misinterpreted, or applied in ways that do not benefit the long term interest of consumers. We have a particular concern with the potential impact of the draft rule on solar households in respect of the scope it may still allow distribution networks to increase fixed charges.

LRMC

We accept the importance of sending consumers a price signal about the likely cost of future investment to meet higher peak demand, and would argue that this is more important than recovering sunk costs in setting tariffs. However, basing network tariffs on theoretical increases in peak demand in an environment in which peak demand is flat or declining raises problems relating to both the methodology or methodologies to be applied by networks in calculating LRMC, and the application of LRMC to so-called residual costs.

On the first point, the main cost driver for future distribution expenditure is likely to be the age of existing assets (that is, replacement capex), not forecast demand (ie, augmentation capex). This suggests that a calculation of the marginal cost for an increase in demand (ie. the LRMC approach) is irrelevant to the actual cost structure of a distribution network in this environment. The AEMC and its consultants have stated that LRMC can be applied to replacement capex, but it is not clear how, given that the definition of LRMC in the draft rule refers to 'the cost of an incremental ***change in demand*** for direct control services' (our emphasis).

The most common LRMC calculation method used by NEM distributors is the Average Incremental Cost

(AIC) approach. However, this formula is unable to be used in situations where demand is in decline. The NERA report prepared for this rule change confirmed this: '…the AIC methodology cannot be applied if demand is falling, because the denominator is undefined.' The NERA report offered the perturbation or Turvey method as an alternative. This approach is most appropriate for LRMC estimates at specific geographic localities, but most distributors are more likely to calculate LRMC values at a network-wide level, given the significant transaction costs associated with pricing specific to localities. The perturbation method is considered significantly more complex to implement than AIC. The case studies used by NERA proved that there are significant differences in LRMC estimates when using the AIC and perturbation methods. NERA provides two examples in its report and the AIC value significantly exceeded the value from the perturbation method. The AEMC recommends that distributors use both of these approaches in price setting, depending on whether a locality is constrained or has surplus capacity. This will create inconsistent results across different tariffs. Neither of the NERA examples considered situations where demand is in decline. In circumstances of flat or declining demand it is likely that LRMC values will fall well short of the full revenue entitlements.

Residuals

This implies that a majority of network costs will likely be recovered through residuals. This is most often done through Ramsey pricing. Thus, the Brattle Group report found (at page iv) that 'If efficient pricing were the only relevant principle, residual costs would be recovered in the fixed charge.' Increased fixed charges discourage energy efficiency and undermine the intention of the marginally based price signal, as well as being regressive.

The recovery of residuals via fixed charges is incompatible with the the draft rule's requirement (at 6.18.5(G)(3)) that the revenue from each tariff must minimise 'distortions to the price signals for efficient usage that would result from [LRMC] tariffs.' This means that customers must receive a LRMC price signal that hasn't been rebalanced to make up a revenue residual: total tariffs should be scaled up from LRMC revenues to recover total revenue for each tariff class.

The strict application of the above clause would therefore preclude the application of fixed charges, since these are not justifiable as LRMC costs. Fixed charges do not send a price signal to consumers about the incremental cost of meeting future peak demand. At the AEMC consumer workshop held on 13 October 2014, HoustonKemp used the cost of acquiring or losing a customer as justificaiton for applying LRMC to fixed charges. But this is a short run, not a long run, cost to networks, so there is no justification for basing it on an LRMC methodology.

In practice, the AEMC appears to be wiling for networks to continue to recover revenue through fixed charges, in spite of the fact that *any* fixed charges represent a distortion of the LRMC price signal. This is of particular concern as the new Network Pricing Objective mandates economic efficiency. When households in the Essential Energy area are currently paying around $500 pa in fixed charges (and rising), it is unacceptable that a rule change related to network tariffs does not provide clear direction that such behaviour by networks can no longer tolerated.

This was confirmed in the consumer workshop held on 13 October. The AEMC and HoustonKemp presented an example that showed how a revenue residual could be allocated to LRMC derived cost components. The example used a LRMC of $280 per kilowatt. This was allocated to the peak and off-peak tariff components to give a LRMC based energy charge of 10 cents/kWh and 1 cent/kWh. An additional fixed charge LRMC of

$5 per customer was derived from the cost of an additional customer connection. After the allocation of allowed revenue, the final fixed charge was $150 per annum.

Even the example presented represented a major distortion of the price signal generated by LRMC. A peak:offpeak ration of 10:1 became 6:1 after the allocaiton of residuals, while the supposed LRMC cost of a customer rose from $5 to $150. Even worse, the combined cost to a customer of fixed and off-peak chages amounted to exactly the same as the cost of peak charges, distorting a 10:1 price signal into a 1:1 non-signal! In TEC's view the AEMC has failed to demonstrate the relevance of fixed charges in a tariff setting based on LRMC.

Moreover, if the draft rule is approved, TEC considers it unlikley that distributors will adopt the example presented by the AEMC and their consultant. The most appropriate pricing component for signalling LRMC to consumers is the demand charge, or a derived peak time energy charge. This is because a network is most likely to be congested in peak times and that is when demand driven network investment will be triggered. Under the draft rule distributors will have no obligation on how they allocate LRMC to pricing components. Houston Kemp's inclusion of a fixed LRMC component is a novel approach and it introduces an additional driver of LRMC within a single tariff: a new customer connection. It demonstrates that there are a variety of methods that could be used to comply with a rule where distribution prices are based on LRMC.

TEC considers that the example presented at the AEMC consumer workshop is a 'best case' example in relation to minimising consumer impacts and limiting fixed charge increases. It is useful to demonstrate what consumers could expect if a DB calculated their tariff under a 'worst case' scenario. TEC recalculated the example's revenue allocation for a situation where customer demand is in decline and the overall LRMC is $0 per kW (as calculated using NERA's preferred AIC methodology, and noting that other methodologies would produce different results - which is, of course, part of the problem). The $250 million revenue for the time-of-use tariff was fully allocated to the fixed charge. The results are shown in the table below.

	Fixed component per annum	**Peak component c/kWh**	**Off Peak component c/kWh**
With a LRMC of $280/kW	$5	1	10
AEMC workshop tariff	$150	2	12.5
With a LRMC of $0/kW	$5	0	0
Worst case tariff	**$500**	**0**	**0**

This second example demonstrates that in situations where LRMC values are low there is a likelihood of an increased fixed charge and adverse consequences for consumers.

Locational price signals

The draft rule requires that LRMC price setting should have regard to 'the location of retail customers that are assigned to that tariff and the extent to which costs vary between different locations in the distribution network.' Under this approach, distribution prices should rise in parts of the network that will become congested, and prices fall in an area where there is expected to be surplus network capacity. This requirement is attempting to ensure that LRMC price signals are set on a locational basis. However, in reality distributors don't set tariffs on a locational basis given the significant transaction costs involved. The LRMC calculated on a network wide basis will be highly averaged given huge variations in forecast demand. Price signals calculated on a network wide basis are likely to be meaningless. The AEMC report

recommends that the perturbation method should be used in congested network areas while AIC is for parts of a network with surplus capacity. However NERA has confirmed that using the AIC approach in areas with declining demand will create erroneous results. Multiple methods of calculating LRMC will create additional transaction costs for distributors and inconsistent LRMC values across tariffs. This is apart from the equity issues involved with locational tariffs, since consumers in the same urban area, say, but connected via different substations may be forced to pay different network tariffs for no fault of their own, but due to capacity constraints and the need for network augmentation.

Metering

Most residential customers outside of Victoria do not have metering installations that allow demand based charging. The draft rule will result in distributors using a derived peak time kWh charge to signal LRMC. This is a very weak signal as it is spread across the peak time period. It is unlikely to influence consumer consumption behaviour to any significant extent.

Minimising the impact on retail customers

Section 6.18.5(h) of the draft rule proposes new principles relating to minimising the impact on retail customers. Networks are only required to 'have regard to' these principles. This is a weak requirement for them to comply with and is not an adequate safeguard against significant rebalancing of pricing components. The principles should be protecting consumers but item (1) in fact reinforces a network's ability to recover revenue and base prices on LRMC. Component rebalancing can still occur, 'albeit after a reasonable period of transition'. In other words, consumers will end up with higher fixed charges and lost energy deferral but only after a longer period of time. The introduction of significantly higher fixed charges whether it be sooner or later is not an acceptable outcome.

Item (2) introduces an 'extent to which retail customers can choose the tariff' requirement. This is a vague consumer protection measure as it is unclear whether the existence of tariff choice would allow or restrict distribution price component rebalancing. Item (3) is similar. If a consumer can't 'mitigate the impact of changes in tariffs through their usage decisions' does that mean a network can rebalance their tariff components to higher fixed charges? Given that the new Network Pricing Objective mandates economic efficiency, TEC is concerned that section 6.18.5(h) is in fact designed to enhance Ramsay pricing. Under Ramsay pricing additional revenue is recovered from customers who are least able to respond to price signals. If the intention of section 6.18.5(h) is to protect consumers (rather than enhance economic efficiency) then this clause should be substantially reworded.

Distributed generators

As discussed in earlier sections, the draft rule determination is unlikely to prevent an increase in fixed charges for distribution tariffs. This will adversely impact the economics of small distributed generation installations that currently benefit from offsetting energy usage with energy generation. The current version of Chapter 6 of the NER contains a rule that is designed to ensure a 'no worse off' principle for distributed generators.

Section 6.18.4 contains a requirement that prevents distributed generators from being adversely impacted. This section provides guidance for situations where a distribution company wishes to allocate a site (or a customer) to a different distribution tariff class, or allocate a new site to a tariff class for the first time.

Tariff classes represent groupings of customers that are based on economic efficiency and a minimisation of transaction costs. Part (3) of 6.18.4 states that customers with micro-generation facilities should be treated no less favourably than retail customers without such facilities but with a similar load profile.

There are two ways of interpreting section 6.18.4. The first is that the 'similar load profile' is determined by netting off local generation. The second is that local generation is excluded and the load profile refers only to the consumption at the site. This second is an acceptable interpretation as it applies only to the electricity that is consumed on a site regardless of the presence of a small generator — ie, it assumes the gross consumption profile is the load. Under this interpretation micro-generator customers would be worse off if transferred or allocated to a tariff with a higher fixed charge. This is because they are less able to benefit from reducing their consumption charges as a result of their on-site generation. Tariff transfers from inclining block to time of use often occur when a roof-top PV installation is installed. For distribution charging purposes the current tariffs are calculated as though the micro-generation facility doesn't exist. This is acceptable when the majority of the distribution is recovered via energy based charges, but not when they become fixed charges. Customers who have a load profile that includes micro-generation have a lower impact on network costs than a customer without micro-generation (all other things being equal). NERA's analysis of SA Power Networks showed a west facing PV system provides approximately a $175 pa network benefit and a north facing system has a $80 pa benefit. It could be argued micro-generation customers should not only be 'no worse off' but should in fact be 'better off.' The benefits to the DG facility customer are lost with any move from energy based charges to higher fixed charges.

We note that this rule change does not concern itself with the value and costs to networks of distributed generation exported to the grid, even though truly cost reflective network tariffs would value this energy. As the AEMC is aware, TEC will present a rule change request in April 2015 which will seek to mandate networks to offer local use of system tariffs to reflect the lower costs incurred where large parts of the network are not utilised. This is the flip side of the current rule change request, in that it is concerned with the cost reflective nature of distributed generation rather than consumption.

Recommendations

In TEC's view the draft rule provides insufficient direction to networks and the AER about the application of LRMC to network tariffs. We suggest the final rule adopts one of the following three approaches:

1. Provision for the AER to specify (probably via a Guideline) the LRMC methodology to be applied by networks; or
2. Include a pricing constraint on the amount of distribution revenue that can be recovered from residential customers via a fixed charge. This would be set as a percentage of estimated bills in the rules and would provide consistency and certainty on this issue across all 13 networks. We suggest that any more than 10 per cent would violate the total efficient cost recovery principle; or
3. The current rule for using LRMC in distribution price setting should remain as it is (DBs currently must 'give regard' to using LRMC when setting prices).

The draft rule could also be improved by making the following amendments:

4. Include a reference to fairness in the new Network Pricing Objective. This objective currently only considers economic efficiency. Overseas energy regulators take fairness into account when approving network prices. The Brattle Group report provides useful evidence on this.

5. Section 6.18.5(h) should be substantially reworded so that it protects consumers against sudden and unreasonable rebalancing of their pricing components. The current wording enhances Ramsay pricing and does not adequately protect the interests of consumers.

Yours sincerely,

Jeff Angel
Executive Director