10 October, 2018

To: Mr Chris Pattas
General Manager, Networks
Australian Energy Regulator
Vic2021-25@aer.gov.au

From: John Herbst
Individual submission
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Dear Mr Pattas

Thank you for considering this submission on the AER's *Preliminary framework and approach: AusNet Services, CitiPower, Jemena, Powercor and United Energy; Regulatory control period commencing 1 January 2021*. This submission is made as an individual consumer and analyst. It has not been reviewed or endorsed by anyone.

Background: I first wrote to you about the demand-stimulating effects of Demand Tariffs back in 2014, having no industry connections, just a background in stats, mathematics and economics. At the time, SA Power Networks, under a Weighted Average Price Cap (WAPC), was migrating its customers onto an Annual Agreed Demand Tariff, VLVS, which it claimed was cost-reflective, but consists of mainly fixed and sunk costs (which do not contain price signals, therefore cannot be cost-reflective). Under the WAPC, SA Power Networks was able to retain extra revenues from its demand-stimulating Demand tariffs, which was not in the best interest of SA consumers. The AER now recognises that the incentive to stimulate demand is a systemic problem under the WAPC, and mandatory Demand Tariffs were an important part of that abuse of consumers. The AER had no reason to approve Demand Tariffs at that time, and new tariffs like "monthly demand" are still trumped by the equivalently structured Time of Use tariff, in terms of efficiency and cost-reflectivity. The insincere focus on Demand rather than actual cost-reflective tariffs has held back technological and economic progress for the past several years.

Recommendation 1: The AER should update its beliefs to reflect the fact that DNSP-driven tariff reform is NOT progressing efficiently.

Recommendation 2: The AER should find it unlikely that DNSPs would sincerely work toward efficient tariff reform under ANY regulatory control mechanism.

Recommendation 3: The AER should acknowledge that Demand Tariffs do not satisfy Rule 6.18.5(g)(3), requiring tariffs to *minimise* distortions to price signals for efficient use of the distribution network.

The main point of this submission is that the AER has erred in its decision to entrust DNSPs to lead the tariff reform process in an efficient manner. DNSPs have plain and obvious incentives to delay the introduction of cost-reflective tariffs, under all proposed forms of regulatory control. Current network tariffs are very smooth and demand-stimulating, driving up long-run network infrastructure costs, when compared to tariffs which promote efficient use of the network.

Implementing cost-reflective tariffs drives down long-run efficient costs for DNSPs, which in turn drives down future revenue allowances and therefore profits (profit being effectively a percentage of allowance). In the short-run, network costs are mainly fixed, so responding to price signals has

little effect on network costs in the current regulatory period. Under a Revenue Cap, network revenues for the current period would also be unchanged, assuming forecasts and allowances have already been determined. Therefore there would be no significant effect on short-run DNSP profits under a Revenue Cap. The AER astutely points out that under a WAPC, DNSPs are incentivised to stimulate short-run demand, thus implementation of cost-reflective tariffs drives down DNSP profits both in the short-run and in the long-run.

The perverted incentive for DNSPs to stay large and relevant under any form of regulatory control is currently an unmitigated, long-run risk to consumers. This problem is exacerbated by the incentive for DNSPs to hold back non-network solutions. As the AER correctly understands, cost-reflective tariffs are a necessary requirement for the efficient function of secondary markets for energy efficient technology and services. Failure to provide cost-reflective tariffs therefore drives up DNSP profits in the long run and distorts rewards for efficient consumer investment.

Demand Tariffs cannot be efficient tariff structures for several reasons:
Demand charges assume (often poorly) a customer's diversity, resulting in an inefficient estimate of each customer's contribution to LRMC.
Demand charges promote flattening and shifting load within the peak period, which has no value unless coordinated to resolve a constraint.
Demand charges contain a price signal for peak usage/demand which varies across similar customers, and even for a single customer, in a way which is clearly not cost-reflective.
Demand charges do not promote efficient use of the network.

Allocative Efficiency: a consequence of efficient tariffs

The AER's note about Allocative Efficiency is poignant. Recall that allocative efficiency is satisfied when a fixed quantity of available goods or resources is optimally distributed to maximise utility. In typical consumer markets (e.g. fruit and veg), the expectation of allocative efficiency relies on buyers to optimise individual purchase quantities in response to the seller's marginal price.

Consumers lacking price information cannot make optimal individual decisions, so allocative efficiency would not be expected if prices cannot be observed. Incorrect price information is another potentially serious problem.

Consumers facing choice constraints and price interactions (e.g. I want to buy 1 but the minimum purchase is 10) or those whose utility have been corrupted (e.g. marketing works!) would not be expected to act as efficiently as consumers with perfect choice and full understanding of utility.

Non-discriminatory pricing ensures that differences in offers available to each customer reflect only differences in cost and practicality of serving that customer.

It follows that under transparent and non-discriminatory pricing, consumers who are able to correctly maximise their own utility simultaneously contribute to maximising joint utility.

In the context of distribution tariffs, allocative efficiency is satisfied when marginal price of usage/demand at peak times (the time when quantity is constrained) equals the marginal cost of peak demand. The Victorian DNSPs and others generally agree that the cost of one kW of demand contributed to the actual peak costs roughly the same regardless of which customers are using it. It follows that the marginal price of usage/demand during actual network peaks should be constant. But marginal price is not constant as a function of individual quantity under Demand Tariffs!

A customer's first *X* kw are charged at the off-peak price ($0 Demand charge, off-peak consumption charge) where *X* is the customer's peak demand at other times over the month/year. This leads customers with marginal utility below LRMC to use *some* energy during costly network peaks, because they pay only off-peak prices during actual peaks. That is a clear violation of Allocative Efficiency principles.

The AER has assessed that it is *likely* that DNSPs will develop and implement efficient tariff structures, but this provides no real protection to consumers and stakeholders. Given that the cost, if the regulator is incorrect in its assessment, is *likely* to include eternally demand-stimulating tariffs, distorted markets for efficient products and services, and long-run over-investment in distribution networks, the AER must be more prudent and diligent in its identification and elimination of DNSP incentives to derail tariff reform. The regulator must be able to say that a future where DNSPs abuse customers is *inconceivable*, or else the AER has not acted prudently to protect consumers.

Thank you again for considering this submission. Please feel free to contact me at herbalisk@gmail.com if you have any questions or comments.

Best regards,

John Herbst