

19 March 2020

John Pierce  
Chair  
Australian Energy Markets Commission  
PO Box A2449  
Sydney South NSW 1235

Locked Bag 14051  
Melbourne City Mail Centre  
Victoria 8001 Australia  
T: 1300 360 795  
[www.ausnetservices.com.au](http://www.ausnetservices.com.au)

Reference Code: RPR0012

Dear John,

### **Issue Paper: Retail Energy Competition Review: Electric Vehicles**

AusNet Services is pleased to have the opportunity to make this submission in response to the Commission's issues paper for the 2020 Retail Energy Competition Review on assessing innovation in the retail market in relation to electric vehicles, including answering the important questions of whether there are energy regulatory barriers to the uptake of electric vehicles.

AusNet Services supports the adoption of EVs and efforts to make the regulatory framework better facilitate the efficient integration of DER and EVs. Where regulatory changes occur, these changes should be done to minimise whole-of-system costs, including costs of future network upgrades and industry wide system changes.

In our submission, we have provided advice in areas where we have expertise in regulatory frameworks and our learnings based on early adoption of EVs and similar more common arrangements. Outlined below in our submission addresses questions 3, 4, 5 in the EV Issues Paper.

#### **Question 3: Regulatory barriers and consideration of multiple trading relationships**

AusNet Services supports efforts to make the regulatory framework more suitable for EVs. The underlying reasons for Multiple Trading Relationships (MTR) for EVs is encourage smart charging that involve specialized systems integrated into the home, and not restrict the customer's choices for their normal power consumption. However, we question whether there are significant benefits from MTR, and whether these benefits would justify costly changes to AEMO, retailer, and distribution business systems and processes.

Currently, in the retail market most retailers charge fixed yearly fees of between \$350 and \$450 in addition to energy and demand charges. Roughly 50% of retailer charges pay for metering and distribution network fixed charges, but the other half covers the fixed costs of retailing electricity and complying with obligations. Customers who have multiple trading relationships would be paying this ongoing fixed charge for each NMI. Even if MTR can be provided by a single meter, the other fixed pricing components, representing the majority of the charge, would still apply. When quantifying the benefits of MTR, we recommend this needs to be evaluated. The savings from combined customer benefit and industry efficiencies must exceed this existing per connection point ongoing cost paid by the customers on a per connection point basis plus the cost of implementing system changes in retailer and distribution businesses.

As we informed the AEMC on the earlier 2012 rule change proposal for MTR, the implementation and IT system costs depend heavily on the system design and could be very significant. The option of parallel meters, that is available today, would have a lower cost in comparison to a design that would allow more multiple meters to multiple NMIs relationships. In our response to this rule change that proposed the most complicated design, we forecast implementation costs of more than \$100 million. There may be alternative metering configurations design that reduce this cost estimate,

although it would depend on a detailed impact assessment. Implementing a new billing system or heavily modifying a registered participants customer relationship managements system may be able to be avoided.

Currently, customers can install a multi-meter board on their premises and establish multiple NMIs in the same way multi-occupancy development do. Establishing this physical arrangement for a newly built house is only marginally more costly. However, to date we have not seen any notable volume of such connections, only a few dozen of enquires.

#### **Question 4: Residential charging**

To facilitate the substantive electrification of transport in a way which minimises future network upgrade costs, we would need better information on where and when charging is occurring and the ability to influence charging timing. Residential EV charging is similar in many ways to off-peak hot water heating in that it is a high demand load that can be scheduled or controlled overnight. However, residential EV charging installations consume a higher demand than off peak hot water heating, and this demand would be additive to hot water heating. As the electrification of the transport sector occurs it is likely networks will need to augment network assets to meet this demand without an adverse impact on reliability.

One way of managing this growth to minimise augmentation is to establish reasonable control arrangements and usage incentives. With off peak hot water heating, AusNet Services controls hot water heating for more than 150,000 customers with time switching and up to 2 hours of random delays of switch on times. This has been successful in deferring augmentation and is one of the many reasons our asset utilization rates are higher than similar distribution networks in other jurisdictions.

In the next 10-15 years when more than 20% of households are forecast to have EVs it may be appropriate to introduce incentives similar to off peak switching for residential EV charging.<sup>1</sup> This may involve off-peak tariffs with lower usage and/or demand charges for night-time charging. However, the challenge is if a large portion of customers set their EV charger to turn on at start of off-peak pricing time (for example 9:00 pm), the network demand would spike at this time, driving network augmentation.

One answer to this problem is somehow staggering the turn on times. This could either be network devices installed behind the switching (like how a smart meter controls a dedicated heating circuit with a randomised turn on delay) or creating an incentive for customers (and their installers) to randomise their EV charging appropriately. In respect to the second option, network businesses lack the ability to offer terms and conditions to existing customers tailored to encourage behaviour that reduces the need for network investment.

One way to provide this incentive is by offering to pay the customer for setting up the randomisation. However, a customer opt-in arrangement for receiving a direct payment (like our GoodGrid demand response initiative) may not result in sufficient numbers of customers signing up. Conversely the vast majority of customers with electric hot water heating and storage systems receive a benefit through their tariffs— perhaps a similar approach could be taken for EV customers.

AusNet Services suggests there may be merit in exploring a framework for network tariff specific terms and conditions that apply to both the customer and retailer. We could then make some off-peak rates subject to the application of randomisation. These product specific terms and conditions could be approved with the network tariff and would complement existing deemed customers contract and standard Ts and Cs with retailers. The current national framework is missing provisions to allow this.

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<sup>1</sup> AEMO, Electricity Statement of Opportunities 2019, p. 39

Randomisation, without limiting customers' ability to manually over-ride the charging start time with a "boost" command, would not impact the experience of EV customers. Retailers would be likely to tailor smart charging products to the network tariff off-peak rates and set up compliant switching with randomisation. This could efficiently manage future network costs, with little to no impact on customer experience.

**Question 5: Non-residential charging**

AusNet Services is also supportive of the establishment of non-residential EV charging products, services and infrastructure. We consider, the current chapter 5A framework in the National Electricity Rules is well suited to connecting large scale EV charging stations, even in regional and remote areas. Connection charges pricing arrangements already creates incentives for new charging stations to take steps to smooth their demand on the network with the need to pay connection capacity costs (in the form of Marginal Cost of Reinforcement). We have observed that at least one charging station operator is establishing solar generation and battery storage installations at the customer's site, to the extent the network assets have adequate hosting capacity. Establishing charging stations with solar generation and energy storage avoids the need to install large transformers to cater for future growth. We welcome this type of arrangement on the basis it helps manage peak demand on existing HV feeders. Therefore, it reduces the future costs of electricity for customers.

We look forward to engaging further with the Commission during the review. If you have any queries about any of the positions outlined in this submission, please do not hesitate to contact Justin Betlehem on 03 9695 6288.

Yours sincerely

A handwritten signature in black ink that reads "C. Eddy". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Charlotte Eddy  
**Manager Economic Regulation**