Submission to ERAWA on

Western Power AA5 Review

(re: additional tariff structure information)

July 2022

Overview:

The Electric Vehicle Council (EVC) is the peak body in Australia representing the interests of manufacturers and suppliers of EVSE, software service providers in the field of EV charging orchestration, and Electric Vehicle manufacturers. We also have strong membership amongst energy market participants, including retailers, DNSP, TNSP, and generators.

The EVC has historically advocated for improvement in network tariff design, and worked closely with DNSPs, market bodies, and state and federal government departments towards this goal. One of our objectives in this activity is balancing the requirements of commercial viability for DC fast charging operators with the operational requirements of the energy networks.

The principle aspect of this issue that is relevant to the AA5 review relates to public high power charging, and the design of two new specific tariff structures (RT36, RT37) that relate to high power EV charging locations:

https://www.erawa.com.au/AA5

https://www.erawa.com.au/cproot/22744/2/Additional-Tariff-Structures-and-Reference-Services-Information.pdf (in particular, page 30).

In brief, the EVC finds that the basic design elements of the new tariffs RT35 and RT36 have merit, but that the specific price points built into them in the information provided mean that the new tariff structure creates network costs approximately an order of magnitude higher than the status quo for a typical high power charging location consuming less than 160MWh/annum. The proposed tariff structures would potentially be attractive to charging station operators if:

1) The settings around c/kVA/day were adjusted to create a commercial outcome comparable to existing energy-only tariffs available to business customers <160MWh/annum
2) These settings were appropriately passed through by Synergy in the form of a retail tariff that the charging station operators can access.

We'd like to reinforce our view here that charging station operators should retain their existing ability, shared by other commercial electricity consumers, to opt for energy-only retail products below 160MWh/annum. This should be supported by appropriate network tariffs and assignment policies. This is not a perfect outcome, but it is a workable outcome, and is the status quo in the majority of Australian jurisdictions, including in Western Power's served areas.

Supporting Detail:

The EVC position with respect to tariff assignment is that customers consuming below 160MWh/annum should be able to opt out of demand and capacity charges and pay instead principally on the basis of energy consumed. This position aligns with the status quo in 11 of the 16 DNSP regions in the country currently, with a further 2 DNSP regions having the same principle in place, but at a lower threshold of 100MWh/annum. This is known as a volumetric threshold. Above this volumetric threshold, demand and capacity charges can be applied.

The reason this is important is that the application of demand and capacity charges at levels of low energy utilisation creates an electricity bill that is very high with regard to total cost per kWh delivered. This challenges the commercial ability of the charging station operator to run the charging station as a going concern, especially in regional areas on lightly trafficked routes, where utilisation can be expected to be lower than in more densely populated locations.

In Western Australia, the volumetric threshold above which demand/capacity charges are mandatorily applied currently sits at the 160MWh/annum level. The new element is the development of a specific tariff structure for high power EV charging locations, where the mechanism to phase in demand and capacity charges is based on a percentage of site utilisation, rather than a volumetric energy level. The mechanism is essentially a sliding scale, aimed at introducing demand/capacity charges gradually right from the start, rather than in a single hit once a volumetric usage level is reached. The core concept is similar – at low levels of utilisation, the site operator is not exposed to significant costs based on peak usage, but as utilisation rises, the sites are exposed to demand and capacity charges.

Given the similarity of concept, the EVC is not outright opposed to the determination of application of demand and capacity charges being done this way. The key issue is to ensure that the tariff is structured and priced in a manner that makes it attractive by comparison to, or comparable to, the existing BAU situation, where charging station site operators are able to opt out of demand and capacity charges below 160MWh/annum.

To support this type of analysis, the EVC has provided Western Power with 30 minute interval data from 16 anonymised high power EV charging locations.

By way of example, if we consider a fast charging location with peak usage of 400kVA, annual energy usage of 100MWh, and utilisation of 23% (one of the 16 site data sets provided) and run it through a ‘status quo’ tariff and the proposed new tariff, we find:

- On RT4, assuming mostly off-peak usage, about $7k/annum in network energy cost and $1.2k/annum in daily charges. This is essentially the status quo. RT4 is one of several energy-only tariffs that Synergy can use to build retail offers for business customers.
- On RT36, assuming mostly off peak energy usage, it’s $2k/annum in network energy cost, $1.2k/annum in service charge, and ~$100k/annum in demand charges. This is heavily influenced by the 70c/kVA/day setting in the reference tariff structure.

If we adjust our assumptions, and consider that this site still has the peak power characteristic at 400kVA, but is at half the utilisation to bring it into the 30c/kVA/day bracket of RT36, delivering 50MWh/annum:

- On RT4, assuming mostly off-peak usage, it’s about $3.5k/annum in network energy cost and $1.2k/annum in daily charges.
- On RT36, assuming mostly off peak energy usage, it’s $1k/annum in network energy cost, $1.2k/annum in service charge, and ~$44k/annum in demand charges.

On the basis of the existing settings in the tariff structure, no charging station operator could be expected to willingly take on a retail product that passes through these signals. Were Synergy to create such a retail product, the market would not want it. Were the levels (particularly those related

to c/kVA/day) in this tariff structure adjusted significantly downwards, the tariff structure might be made attractive to charging station operators.

With the existing settings as presented, the impact is roughly a tenfold increase in network-related costs that would be passed through to the charging station operator. Given it the new proposed tariff structure is uniquely applied to a specific customer type, it looks more like a tariff intended to selectively penalise operators of EV fast charging locations as a class of energy customer, rather than a tariff deigned to support dedicated EV fast charging stations.

Conclusion

The EVC is happy to work with DNSPs, energy market bodies, and regulators to achieve improved tariff design that will support a transition to EVs, and is privileged to count multiple DNSPs among its membership base.

Tariff design, both in public and residential settings, is going to be crucial in the transition to EVs, as we seek to migrate ten of billions of litres of petrol and diesel consumed each year over to dozens of terawatt-hours of electrical energy, while minimising necessary network investment associated with the reliable delivery of the energy demanded by the transport sector.

Striking the right balance between commercial viability for key stakeholders, and the application of cost reflective network pricing principles, is going to take collaboration between all involved parties.