

COMPETITION & REGULATION UPDATE

WILL NETWORK CHARGES ENCOURAGE THE INSTALLATION OF RESIDENTIAL BATTERIES – IMPLICATIONS OF SOLAR PANELS CASE

In *CKI Utilities Development Pty Ltd v AER*, the Federal Court upheld the AER's decision to reject SAPN's application to impose higher c/kWh network prices on customers with solar panels. This article considers the implications of that judgment for residential battery storage.

OVERVIEW

Will network charges encourage the installation of residential batteries?

It remains to be seen what impact batteries will have on the operation of Australia's electricity networks. They may become an integral part of those networks, could be used as a substitute for those networks and may significantly alter the operation of those networks.

On 21 May 2015 SA Power Networks (**SAPN**) proposed network tariffs in which customers with solar panels (**PV Customers**) would be assigned to a tariff with a higher c/kWh price for electricity usage.

On appeal, the Federal Court upheld the AER's decision to reject that proposal based upon rule 6.18.4(a)(3) of the National Electricity Rules (**NER**).

The judgment supports a view that the AER may have power to reject tariffs proposed by networks that would have the effect of discouraging the installation of residential battery storage.

Specifically it is possible that networks could propose higher c/kWh usage prices for customers with storage. This article considers how rule 6.18.4(a) might apply in such a circumstance. Although the judgment addresses a number of key issues, it also leaves a number of questions unanswered. In summary, the judgment:

- confirms that rule 6.18.4(a)(3) of the NER limits the ability of networks to impose network tariffs that discriminate against PV Customers where the load profile of those customers is similar to the load profile of customers without solar panels (**Non-PV Customers**).

- suggests that the relevant load profiles are those measured at the connection point (i.e. load on the network), rather than the 'native' load profile (i.e. load from any source including solar panels and potentially storage); and
- gives the Australian Energy Regulator (**AER**) significant latitude in determining whether the load profiles of two groups of customers are similar.

Although the judgment does not directly refer to storage, rule 6.18.4(a)(3) is concerned with micro-generation facilities, which term is likely to extend to at least some types of storage. Further, at least initially, many of the customers installing storage are likely to have solar panels.

In consequence, the AER may have an important role to play in the future in determining network pricing for consumers with storage.

SUMMARY OF DECISION

Protection for customers with solar panels

In *CKI Utilities Development Pty Ltd v AER* the Court considered the application of rule 6.18.4(a)(3) of the NER, which protects residential electricity PV Customers against discriminatory conduct from networks. It states:

'In formulating provisions of a distribution determination governing the assignment of *retail customers* to *tariff classes* ... the AER must have regard to the following principles:

'(3) ... *retail customers* with micro-generation facilities should be treated no less favourably than *retail customers* without such facilities but with a similar load profile'

The rule refers to tariff classes, but does not expressly refer to tariffs.

SAPN proposes a Solar Tariff

SAPN allocates residential customers to a broad tariff class entitled 'Low Voltage Residential'. In May 2015, it submitted to the AER a proposal adding new tariffs within that existing tariff class, which would apply to two distinct groups of people:

- customers with solar panels (**Solar Tariff**); and
- customers on retailer hardship programs (**Social Tariff**).

Customers assigned to the Solar Tariff would pay a higher c/kWh price for the use of electricity than customers on the standard tariff.

In support of the Solar Tariff, SAPN observed that:

- the majority of its costs are attributable to capacity requirements at times of peak demand;
- PV Customers exert a similar demand on the network at peak times as Non-PV Customers (because peak demand occurs on hot summer afternoons and evenings, when energy from north facing solar panels is diminishing or zero);
- however, PV Customers purchased less electricity overall; and
- SAPN imposes network charges for individual customers primarily based on the overall usage of that customer. SAPN cannot effectively impose charges based upon their demand at peak times, at least for most customers, because they have type 6 meters which do not record the time at which electricity is used.

In consequence, SAPN contended, that in order for PV Customers to pay their fair share of the network costs, they should pay a higher c/kWh rate for electricity usage.

Further, SAPN contended that :

- rule 6.18.4 did not apply because although it would assign certain customers to a new tariff, those customers remained within the same Low Voltage Residential tariff class; and
- 6.18.4(a)(3) did not apply because PV Customers have a different load profile.

AER rejects Solar Tariff

In June 2015, the AER refused to accept the Solar Tariff and the Social Tariff. In respect of the Solar Tariff, the AER concluded that even though the customers assigned to the Solar Tariff would remain within the same tariff class:

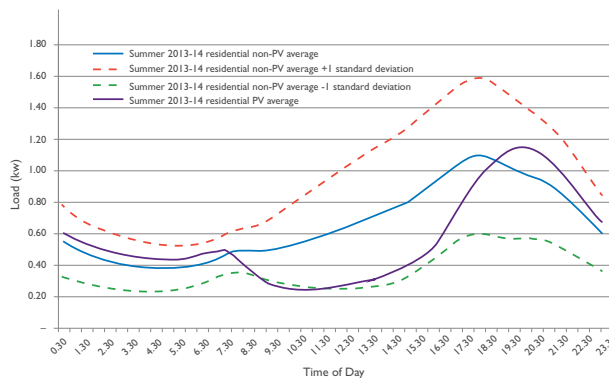
- rule 6.18.4(a)(3) did apply to the Solar Tariff; and
- the AER was not satisfied that SAPN had demonstrated PV and Non-PV Customers had sufficiently different load profiles.

In relation to the latter point, the AER attached the following diagram showing, for summer 2013/14 in South Australia

- residential Non-PV Customers' average load (together with dashed lines showing 1 standard deviation either side); and
- residential PV Customers' average load.

The plus/minus one standard deviation band is clearly quite large at certain times. For example, at 3:00pm, it ranges from approximately 0.3kW – 1.2kW.

Chart 1 Comparison of average summer 2013-14 PV and non-PV load profiles



Court rejects SAPN appeal

The Court referred to two distinct interpretations of the term 'load profile' for the purposes of clause 6.18.4(a)(3), being:

- native load profile (that is, total demand for electricity from any source, including the network and solar panels) and
- load measured at the connection point (that is, the demand for electricity from the network).

The Court found that protection afforded by clause 6.18.4(a)(3) applies not only to a decision by a network to assign a customer to a tariff class, but also to a tariff. The

reasoning of the Court suggests that a similar analysis may apply to the protections in subclauses 6.18.4(a)(2) and (4).

The Court found that the load profile in this context is to be measured at the connection point. That conclusion could be said to render rule 6.18.4(a)(3) impotent if the 'similar' criteria was interpreted narrowly.

However, on the particular facts of this case, the AER found that the load profiles of PV and Non-PV Customers were similar such that the rule applied to prevent SAPN imposing higher c/kWh prices on PV Customers. The Court found no fault with the AER's decision.

Although the reasoning which ultimately led to the AER's decision to reject the Solar Tariff was unclear, the Court accepted that it had, at least in part, been informed by the analysis of Mr Thompson. This analysis included the preparation of a graph (reproduced above) comparing, at half hourly intervals, the average demand of PV Customers with the average demand of non-PV customers plus or minus one standard deviation. Mr Thompson calculated the standard deviation using a proxy, being the variation in the half hourly average demand data.

On the basis that the average demand of PV Customers was mostly within the one standard deviation band around Non-PV Customers average demand, Mr Thompson concluded that the load profiles were similar (we note that the judgement, apparently erroneously, records the opposite conclusion).

The Court accepted Mr Thompson's evidence and, on this basis, rejected SAPN's appeal.

NETWORK CHARGES AS A DRIVER OF DEMAND FOR STORAGE

Network costs are driven by cost of peak capacity

Network charges may ultimately become a significant driver of demand for residential storage units. This is because much of the current cost of electricity in the NEM arises from the cost of ensuring supply at a small number of peak times. On a NEM wide basis, network charges made up 43% of residential electricity bills in 2014/15. The vast majority of network charges are distribution charges. The primary driver of distribution charges is peak demand capacity. United Energy calculated that 25% of its network's capacity is used to supply energy for less than 1% of the time. SA Power

Networks observed that about 50% of network costs are attributable to capacity requirements at times of peak demand.

Of course, demand for storage could also be driven by wholesale electricity costs, which are incorporated in retail pricing. A significant portion of the wholesale cost of electricity arises from a small number of times of peak demand. In summer 2013/14 in Queensland, the dispatch interval price exceeded \$1000/MWh on 50 occasions (i.e. a total of about 4 hours over the summer). That 4 hours increased the summer average spot price by 18% from \$56.10/MWh to \$68.77/MWh.

Network charges may be driven by the demand at times of peak capacity

In future regulatory periods, the issue faced by SAPN is likely to become more pronounced as customers supplement solar panels with residential storage units.

Consumers with solar panels and storage (**PV&S**) may be able to significantly reduce their network charges by limiting their demand for electricity from the network and shifting this demand to times outside the peak. This will be aided by:

- smart meters. Smart meter deployment is expected to increase as the role of metering co-ordinator becomes contestable from December 2017 and
- cost reflective network tariffs. The AEMC's 2014 rule change requires distribution networks tariffs to be based on the long run marginal cost of providing the service and to be calculated having regard to cost of meeting demand at peak times (**2014 Rule Change**).

If so, consumers without PV&S might be burdened with increasing total network charges, driving a cycle of increasing demand for residential batteries.

Increased deployment of batteries could in turn alter the nature of the electricity networks in the NEM, potentially reducing the need for such high levels of peak capacity and reliability.

IMPLICATIONS FOR STORAGE

Rule 6.18.4(a)(3) applies to storage as well as solar panels

Although this case is directly concerned with solar panels, it has direct implications for storage given that rule 6.18.4(a)(3) is concerned not just with solar panels but with micro-generation facilities, which term includes residential storage units. To the extent there was any

doubt, the AEMC recently amended the definition of 'generating unit' in the NER to make clear that it included batteries. That change commenced on 26 May 2016.

Further, storage units are most likely, at least initially, to be installed by customers with solar panels. As such, any network tariffs targeted at customers with storage are also likely to impact customers with solar panels.

Implications for storage

In short, the judgment suggests that rule 6.18.4(a)(3) may operate to prevent networks imposing tariffs on customers with storage units that discriminate against those customers.

There are two precursors to the operation of rule 6.18.4(a)(3).

The first is that on the terms of the NER, it applies in respect of tariff classes rather than tariffs. This contrasts with the recent changes to the pricing provisions in the NER which focus on network tariffs. The Court effectively found that the rule applies not only to tariff classes but also to tariffs. As such, networks cannot avoid the operation of the rule through imposing new tariffs within existing tariff classes.

The second is that this rule only operates where customers with micro-generation facilities have a similar load profile to other customers. In this regard, the Court's finding leaves some uncertainty:

- On one hand, the Court's finding that the relevant load profile is that measured at the connection point might limit the application of the rule; but

- On the other hand, the Court's acceptance of the AER's analysis of similarity suggests that this hurdle is set at a very low level such that the AER has significant latitude in determining load profiles are 'similar'.

Setting the 'similarity' hurdle at a low level provides greater scope for the operation of the rule, and thus greater scope for the AER to ensure that networks do not discriminate against customers with micro-generation facilities.

Following the 2014 Rule Change, networks have introduced tariffs in which a significant portion of a customer's total network charge is based upon that customer's maximum demand during peak times.

In a broad sense, network tariffs in which a large portion of the total charge is based on demand during a limited peak period should encourage the deployment of storage behind the meter. However, as storage behind the meter becomes more prevalent, networks may face similar issues to those faced by SAPN in this case.

The extent to which the load profile of customers with storage is similar to other customers, such that the protection in rule 6.18.4(a)(3) applies, will fall to be determined on a case by case basis.

This case is significant in demonstrating that although the load profile of PV Customers was a markedly different shape during daylight hours and strayed outside the 'one standard deviation' band calculated by the AER for a portion of the day, the AER nevertheless concluded that load profile PV and Non-PV Customers was similar and the Court accepted that conclusion.

MORE INFORMATION

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