Ref: 20210211AS:CB

11 February 2021

Alisa Toomey
Senior Adviser
Australian Energy Market Commission

Submitted electronically via aemc.gov.au

Review of the Regulatory Framework for Metering Services – EMO0040

Essential Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) on its *Review of the Regulatory Framework for Metering Services* (the review), and we appreciate the collaborative approach and industry consultation that has been undertaken by the AEMC to date. Energy Networks Australia has also produced a submission which Essential Energy supports.

The AEMC's review instigation presents a timely opportunity to ensure consumer outcomes are being maximised and industry expectations met. The changes introduced through the *2015 Expanding competition in metering and related services (Competition in metering) rule change* came into effect on 1 December 2017 and has now been in full operation for more than three years.

The competition in metering reforms were expected by industry to lead to widespread smart meter uptake, providing consumers with innovative products and services, improved retail offerings, granular information, improved price signals as well as greater network services. To date, the competition in metering reforms is not delivering improved customer outcomes, nor providing Distribution Network Service Providers (DNSPs) with the ability to enhance customer network services in an effective manner.

As noted within the consultation paper, managing the high penetration of distributed energy resources (DER) across distribution networks both now and in the future depends in large part on the network visibility functionality that smart meter installations are able to provide.

To enable the future grid and deliver improved customer outcomes, Essential Energy would encourage the AEMC to closely consider the following areas as part of the review process:

- A greater role for DNSPs to increase the pace of smart meter roll out should be contemplated. DNSPs should be allowed to assist in coordinating advanced metering functionality for life support customers and within high bushfire risk areas as well as in specific areas, for example geographies that are remote and/or have low customer density, where locational efficiency of a coordinated roll out exists.
- DNSPs require improved visibility through the timely provision of smart meter data to provide near real time readings of voltage, currents and real and reactive power in order to safely and reliability

operate the network. In addition, access to smart metering data allows DNSPs to support customers maximise the utility of their installed DER, ensuring unnecessary constraints from exports are avoided. Potential reforms could include expanding the minimum National Electricity Rules (NER) service specification requirements, light handed regulation of meter data pricing and creating industry data standardisation practises.

- The complexity of co-ordinating multiple participants in the metering process has contributed to customer confusion and in some instances, poorer quality service. These existing deficiencies should be considered, including a potential improved role for DNSPs having responsibilities for delivering or coordinating customer services, for instance, shared fuses.
- At present the Energy Security Board is developing advice on several key market design initiatives and recommending holistic changes to the National Electricity Markets. Wherever possible, we would encourage the strategic alignment of any review recommendations and workstreams to maximise efficiencies, minimise duplication and also to minimise compliance risks for DNSPs and other market participants.

These points and others are outlined in further detail below. If you have any questions in relation to this submission, please contact me on 0406 534 682 or Anders Sangkuhl, Regulatory Strategy Manager via anders.sangkuhl@essentialenergy.com.au or via phone on 0409 968 326.

Yours sincerely,

Chantelle Bramley
General Manager, Strategy, Regulation and Corporate Affairs

Essential Energy Submission to Review of the Regulatory Framework for Metering Services

Reforms required to facilitate greater smart meter roll out

Smart meter penetration

Smart meters are fundamental enablers of consumer benefits, such as time of use pricing and demand management services, quicker customer transfers, reduced energy theft and the facilitation of different billing cycles. At present Essential Energy has a smart meter penetration of only 20% across our regional network.

As noted within the consultation paper, managing the high penetration of distributed energy resources (DER) across distribution networks both now and in the future depends in large part on the network visibility functionality that smart meter installations are able to provide. The falling costs of DER installation and the greater uptake of new technologies such as batteries or even electric vehicles is accentuating the requirement for greater understanding of the operating environment of the low voltage network in a way that was never before required.

Following Victoria's smart meter roll out program, which was completed in August 2014, Victorian customers have been able to access a range of benefits[1] which have led to improved outcomes for all stakeholders, including:

- Improved restoration times for customers through faster detection of outages and faults – Smart meters notify DNSPs in real-time if a premises' power is out. These outage alerts can speed up power reconnection because the source of the problem can be pinpointed instantly, allowing repair crews to be prioritised appropriately and start repairs sooner. Smart meters can then verify whether power has been restored to all meters. This is particularly helpful in major events like bushfires where it is important to understand how many customers are impacted and the duration of the outage.
- Improved price signals - Improved tariff incentives and reforms which maximise the effective utilisation of the network (and wholesale markets) through load shifting or otherwise. This benefits customers in a wider array of retail product offerings and faster switching times.
- Lower costs to consumers through improve network operation efficiency – Faster response times improves DNSP efficiency, in many instances this allows for reduced labour and restoration costs. This contributes to lower network prices for all customers.
- Improved public safety – Smart meters provide DNSPs with the tools for immediate detection of faults and network disturbances and can implement safety measures more quickly. This benefits customers through improved public safety and should help reduce issues like fire starts.

Nonetheless, the slow roll out of smart meters in other NEM jurisdictions is a key barrier to improved customer outcomes. To date, Essential Energy's expectations of the speed at which the rollout of smart meters is occurring have not been met. The roll out of smart meters across the network has been patchwork, slow, and often not in areas in which improved visibility would benefit network management tasks such as voltage issues. Even those customers who do have smart meters receive limited innovated products, due to the lack of scale to incentivise retailers to offer smart products which could ultimately leverage the benefits smart meters can provide.

[1] Department of Environment, Land, Water and Planning, Smart Meter web page, link here, 2020

This is leading to inefficient outcomes. For example, there are instances where DNSPs are having to install their own network devices in specific areas of the network to gain visibility metrics to safely and reliably operate the network. This outcome is potentially inefficient given these visibility metrics would otherwise be provided for free (or low cost) as a by-product of a greater update of smart meters.

The slower than hoped uptake of smart meters across the network exists for a variety of reasons. Individual retailers each operate separate and often unique different metering installation request processes. This results in additional complexity for metering coordinators, DNSPs, and electricians. This involvement of multiple participants in the installation process for smart meters has been a key driver in customer complaints.[2]

One year following the implementation into the *competition in metering rule change reforms*, the Independent Pricing and Regulatory Tribunal (IPART) undertook a review[3] of metering practises specifically focusing on the NSW experience. The review identified a number of issues, both systemic and transitional, mainly associated with the lengthy time taken to install customers smart meters. The findings of the review highlighted that the NSW Energy & Water Ombudsman received a spike in complaints to around 200 a month, with 100 specifically related to meter installation delays. As part of that review the Housing Industry Association also raised the issue of smart metering installation delays stating: "w*hilst we have seen some progress of late in getting new smart meters connected in a more timely fashion, many of our members in locations outside of Sydney are still facing substantial delays"[4].*

In Essential Energy's view, the current low penetration of smart meters means that the volume of meters currently available is insufficient for DNSPs to draw value from and deliver improved services to customers. This is especially true in relation to access to metering data, an issue which is explored in further detail below.

Case for expedited smart meter penetration

Given the relatively low smart meter penetration across the NEM, Essential Energy is of the view that the AEMC should explore the case for introducing measures which expedite the pace of smart meter roll outs under the following circumstances:

- Locationally efficient network areas

As alluded to within the consultation paper, currently there is a lack of incentives under the existing regulatory and market framework for customers and retailers to initiate meter changes, for reasons other than meter failure, a new connection or to facilitate a DER installation. This is leading to an uncoordinated smart meter roll out across NEM jurisdictions.

This has implications for a network such as Essential Energy's where there is low customer density and large geographical distances to cover (approx. 95% of NSW). Essential Energy has the lowest customer density in the NEM at just 4.6 customers per kilometre of powerline. Our longest length of powerline is 1,905 kilometres which services just 335 customers. The geographic spread of our network and demographics of the communities we serve sets Essential Energy apart from other DNSPs. Essential Energy has about one third the number of customers per kilometre of powerline compared to the average customer density across the NEM. A distribution network with a low customer density requires more poles and wires to reach customers than other networks with a higher customer density.

2 For instance, AER data shows that nearly 60 percent of the metering related complaints received were attributed to installation delays.

3 IPART, Retailers' metering practises in NSW, final report, November 2018

4 HIA submission to IPART Draft Report, November 2018, p 1

Smart meters provide accurate real-time information about electricity consumption for consumers and retailers. Given these features of our network, Essential Energy sees greater smart meter penetration as an opportunity to both improve the reliability and quality of service for our higher cost-to-serve customers as well as reducing costs and therefore bills for all our customers.

However, unlocking the benefits smart meters can provide the efficient utilisation of the network is a challenging proposition, as Essential Energy has no control over where smart meters are installed across the network footprint. As such, in rural and remote parts of Essential Energy's network the cost of meter reading is at risk of increasing, as households slowly transition to smart meters with remote meter reading technology. When this occurs, the per customer costs of physically reading the remaining analogue meters will increase, as meter readers travel the same long distances to read fewer and fewer meters, thus increasing the costs of meter reads and becoming a diseconomy of scale.[5]

Essential Energy would therefore encourage the AEMC to consider what role DNSPs could provide in orchestrating an increase in smart meter penetration in areas which demonstrate significant efficiencies.

For example, in areas which are approaching higher levels of smart meter penetration, transitioning the remaining analogue meters to smart meters may be efficient. This could occur through multiple smart meters being installed across shared fuses, the entire street, or even the entire feeder length. This would reduce the costs of installations (lowering customer pass through costs), as well as allowing DNSPs to provide valuable input into specific networks areas which are currently experiencing voltage constraints and would benefit from additional network visibility.

- Life Support Customers

Essential Energy believes a strong case exists to expedite a smart meter roll out across the approximately 20,000[6] registered life support customers across our network who rely on continuous power supply for medical equipment.

Smart meters allow for more accurate detection of localised outages impacting life support customers. Having visibility of the real-time situation allows Essential Energy to better estimate restoration timelines, so life support customers can understand whether to stay in their homes or seek other accommodation.

In the case of any delays to restoration, DNSPs are able to prioritise restoring power to the property of life support customers and, as needed, encourage them to follow their emergency back-up plan. Without this real time monitoring, Essential Energy relies on site visits and customer phone calls to identify where outages exist on the network at some cost.

In addition, providing smart meters to all life support customers contains a number of other benefits:

- Faster response times during general unplanned outages;
- Eliminating the need for meter reading visits to medically vulnerable customers;
- Improved understanding of voltage across the low voltage network;
- Improved ability to confidently forecast energy interruptions to life support customers, and self-report potential National Energy Customer Framework (NECF) breaches; and
- Empowering customers with a mobile application for communications and usage data

[5] It's worth noting that under full smart meter penetration such as Victoria, this effectively brings an end to manual and estimated readings and associated costs.

[6] Essential Energy has approximately 26,000 life support, of which approx. 6,000 already have smart meters installed.

At the next stage of the review process the AEMC should consider meaningful recommendations for expediting smart meter roll outs to life support customers.

- Bushfire prone areas

Essential Energy has approximately 57,000 customers within priority 1 bushfire prone areas. Due to the low penetration and slow rollout of smart meters in regional NSW, in the event of an emergency, network operators have limited ability to identify which parts of the distribution network remain energised, and which parts have been damaged due to fire. Smart meters would provide almost real time information on which houses, and businesses are impacted by a power outage.

During the 2019-20 summer bushfires, one of the key issues Essential Energy identified was constrained access to accurate information available to both our field crews and external stakeholders about the number of households and businesses impacted by power outages. During the south coast bushfires, Essential Energy crews had to physically travel from house to house to assess the status of each premise, diverting resources from restoration efforts and slowing down the overall speed of response. Essential Energy prioritises the safety and wellbeing of our staff and was particularly concerned for their safety when undertaking this work in challenging conditions.

Access to this information would significantly enhance the speed with which Essential Energy could respond to fault and emergency events such as bushfires. Having visibility of the real-time situation allows Essential Energy to better estimate restoration timelines, so customers can understand whether to stay in their homes, seek an emergency generator, or find other emergency accommodation.

Essential Energy would encourage the AEMC to consider whether any strategic alignment can be obtained through recommendations arising from this metering review as well as with the key recommendations noted in the NSW Bushfire enquiry and the Royal Commission on Disaster Arrangements (NSW Bushfire Inquiry Recommendation 18, 30 and 54 and Royal Commission on National Natural Disaster Arrangements recommendations 9.4, 9.63 and 22.12).

Essential Energy believes benefits exist in exploring options for expediting a greater smart meter roll out under the criteria listed above. As a first step, Essential Energy would encourage the AEMC to consider undertaking a thorough examination of the costs and benefits identified above.

Access to metering data

As more DER is connecting to the low voltage network with increasing scale, the technical limitations of the network are being tested. To operate the network of the future, DNSPs require the timely provision of smart meter data to deliver the following outcomes:

- Provide near real time readings of voltage, currents and real and reactive power in order to safely and reliability operate the network to meet licencing requirements;
- Better planning to optimise the network to maximise utility of customers installed DER, ensuring customers are not unnecessarily constrained from exporting;
- Timely identification and rectification of network safety issues;
- Improved levels of customer service through the timely and accurate provision of information; and
- Improved tariff incentives and reforms which maximise the effective utilisation of the network through load shifting or otherwise.

Nonetheless, under the current NER, metering data can only be made available to DNSPs to complete their obligations of operating the network in a safe and reliable manner, or when required to meet obligations under AEMO procedures such as customer billing and settlement processes, otherwise

known as the minimum NER service specification requirements. Outside of these specific circumstances, metering data must be provided through bilateral commercial arrangements between DNSPs and metering coordinators.

At present, these commercial arrangements between DNSPs and metering coordinators are not working efficiently for the following reasons:

- Across metering coordinators there is a lack of data standardisation of key terms, data arrays and data terminology. In many instances, the data systems utilised across participants are different and provided in multiple formats requiring different software licences. Subsequently any data received requires substantial data treatment, ultimately increasing DNSP costs.
- Inconsistencies in standardised contractual arrangements across metering coordinators requires substantial legal work when negotiating arrangements across multiple metering coordinators.
- Cost prohibitive pricing arrangements in some circumstances.

The impediments listed above are hindering efficient customer outcomes. This is directly preventing the greater update of smart services and products facilitated through improved live data communication between customers appliances and their distributor and retailer.

Improved access and facilitation of metering data

Essential Energy requires low cost, efficient measures to be in place to obtain accurate metering data to deliver network services that improve customer outcomes. Reforms are required to improve DNSP access to and quality of data received. Potential reforms could include the following:

- The minimum NER service specification requirements could be expanded to require metering coordinators to provide 5-minute interval readings of voltage, current, and real and reactive power to DNSPs as part of a standardised fee for service. Such a fee would cover the efficient marginal costs of providing the data and could be set by an independent pricing regulator such as the Australian Energy Regulator or IPART. Alternatively, pricing could be determined through a light-handed commercial arbitration framework. More advanced data sets provided in the future could also be facilitated in this manner.
- There is a clear need to establish metering data standards across metering coordinators and DNSPs which clearly define data definitions, formats, B2B processes, and data systems. Such a process should be industry led and contain equal representation from all stakeholders. It is worth noting that as part of the ESB's post-2025 project, a data strategy is being established which looks to set standards for common data architecture across the NEM. The AEMC's metering review ideally could align recommendations with this ongoing work.
- Customer registered as life support customers and priority bushfire prone areas should have all their smart meter data (both basic and advanced) provided by metering coordinators to DNSPs to enhance customer service quality. The rationale and benefits of such a requirement is set out in the expediated smart meter roll out section above. The costs incurred by metering coordinators in providing this data could be recovered as part of a standardised fixed fee for service.

Shared network fuses

The issue of shared fuses issues highlights a prime opportunity to explore improved metering arrangements which deliver improved customer outcomes and contribute to productive efficiencies. The *2015 Expanding competition in metering and related services rule change* introduced multiple

participants into metering processes, meaning the loss of a single point of contact. As noted within the consultation paper, customer confusion and poorer quality service has increased as a result.

At present, when undertaking metering installation or repairs where customers share a fuse, a temporary isolation for group supply is required to be undertaken. This is because a meter provider cannot isolate a single customer to perform a meter exchange without also disconnecting others on a shared fuse. DNSPs are therefore required to identify and notify all impacted customers within the shared fuse group of a planned outage and perform the outage on an agreed date and time, within 25 business days so the meter provider can carry out the meter exchange. Each time an individual customer requires a meter exchange or repair, this process is repeated, meaning customers may experience multiple isolations even if their individual meter is unaffected.

Under the current regulatory framework, DNSPs are responsible for the distribution network up to the point of supply and have defined obligations under the current rules and ring-fencing arrangements. As such, when undertaking shared fuses work, multiple stakeholders are involved, including electrical contractors, retailers, metering coordinators and occasionally work safety representatives (for issues such as asbestos). This coordination across multiple stakeholders often entails a material administrative resourcing effort.

Nonetheless, when attending on site, Essential Energy field crews often experience a variety of reasons preventing completion of temporary isolation work including cancellations or even “no shows” by electrical contractors or meter providers. This prevents completion of the work and restarts the entire process. Such an outcome results in additional costs for multiple parties and often negatively impacts a customer’s experience. Over the last 6 months of temporary isolation supply work on Essential Energy’s network only 17% of jobs were completed by the originally requested date.

Essential Energy would encourage the AEMC consider this issue in detail in the next stage of consultation.

Other issues

Streetlights

Essential Energy is currently undertaking a bulk street light lamp upgrade programme committing to a 100% deployment of LED streetlights across our network. As part of this project, a SMART streetlight control network trial is also being undertaken.

The SMART streetlight control network contains a cloud or on-premises based software to provide control and monitoring of the streetlights, creating a communications ‘backbone” whilst also driving down network maintenance charges. Smart controller technologies offer accuracy benefits including consumption measurement, decreased unserved energy, reduction in energy consumption and avoidance of bi-annual night patrols.

Essential Energy is raising this issue to stimulate AEMC discussion in the next stage of consultation as to how the regulatory framework intends to approach fast developing technologies that have the potential to provide similar metering services.