Ref: 20241107AY:HP

7 November 2024

Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

Dear AEMC

ERC0399 – Real-time data for consumers

Essential Energy welcomes the opportunity to respond to the Australian Energy Market Commission (AEMC or the Commission) on its consultation paper for real-time data for consumers Rule and corresponding amendment to the National Energy Retail Rules (NERR).

Essential Energy has been a keen participant in the AEMC's review of the metering framework (the review), which led to this rule change proposal. Essential Energy strongly supports the accelerated deployment of smart metering as the key enabling technology that will allow all electricity consumers to understand and derive value from the energy transition. This is particularly true with electrification and the rapid growth in consumer energy resources (CER). Critical to electricity consumers' ability to optimise their energy choices and decision-making stems from their access to their real-time data.

As a result, Essential Energy strongly supports changes to the NERR to enable consumers, and their appointed representatives, access to the data from their smart meters in real-time. Further, Essential Energy considers that the data should be provided in a format that consumers can use to inform choices around their energy consumption and investments. For maximum benefits, the definition of real-time should be set at a minimum level of no longer than 5 minute intervals but can include data that is received instantaneously.

Consumers, and their appointed representatives, should not have to face additional costs for access to this data. Consideration regarding how costs are apportioned should also be given to how recipients of consumer data intend to share that data with consumers. There may be a case where, customer data that is received at no additional cost, is then shared with consumers, at no additional cost. While data which can be elaboratively transformed into products and services valued by consumers might incur the efficient costs of delivery.

In its recent revenue decisions for NSW and ACT Distribution Network Service Providers (DNSPs), the AER approved a new common distribution service under which networks can provide smart meter data to customers. This service will allow smart meter data that the networks receive at no additional cost and packaged as part of standardised data sets, to be made available to customers and other

stakeholders free of charge.[1] This will allow for the development of basic innovative customer products and services to enable customers to optimise their electricity usage, and the benefits derived from smart meters, at low or no cost. While more sophisticated products and services can be developed by the contestable market as demand for such grows.

As a result, Essential Energy considers that the definition of smart meter data available to DNSPs, at no additional cost, should be as broad as possible to enable customers to capture the full benefits of smart meters through data utilisation. Permitting DNSPs to provide customers access to their consumption and other data at no direct cost will provide the impetus necessary for the potential benefits of smart meters to be fully realised.

The benefits of a broad definition of Power Quality Data (PQD) – which could include voltage and energy data – flow beyond customer optimisation of energy usage. These benefit categories include increased reliability, capacity utilisation and safety where increased reliability and utilisation contribute to driving down costs to the consumer, and increased safety benefits for all customers.

Naturally, Essential Energy understands that the benefits arising from the provision to DNSPs of real-time data from smart meters is likely to follow a logistical growth curve, where at the inflection point, the benefit for each additional unit of data has decreasing returns to scale, until the cost for each additional unit of data exceeds the benefits. Essential Energy has not performed the analysis to determine where the inflection point may lay specifically as this will depend on the cost of each data point. The lower the cost, the steeper the benefit curve, leading to greater benefits for each unit of data, until that inflection point is met.

This, at least in theory, demonstrates the need for a cost allocation and dispute resolution framework which reflects the direct costs for data provision, taking into account the societal benefits of that data to drive equitable access, not profit. Essential Energy supports the proposal to the extent that the Rule change allows for the recovery of the direct costs of real-time data delivery, and a dispute mechanism to ensure transparency of the cost calculation, with the burden of proof on the Metering Coordinator (MC) to verify the fairness of charges as proposed.

Until now, the benefits of customer-generated data have been able to be captured solely by the MC. The “commercial procurement” of meter data, has placed the MC as an unregulated monopoly provider of that data. This is because each meter installation generates its own unique set of data which is collected by a single MC.

In some cases, such as outage and safety data, DNSPs need access to 100 per cent coverage. To obtain that data, DNSPs have only the single source, there is no competitive market from which price discovery can occur. MCs therefore have an incentive to extract monopoly rents, charging the highest price the “market” is willing to bear. This approach, if allowed to continue, will produce poor outcomes for customers.

Further, the current approach does not recognise to whom the data belongs. We support the principle that the primary beneficiary of the data should be its owners, namely electricity customers. It is customers who pay for the smart meter installation, and it is customers who generate the data. Customers also become the indirect beneficiaries of distributor access to that data through the more efficient operation of, and investment in, the network. To allow a third party to extract monopoly rents from that data, is not only charging the customer twice, but reduces the range of benefits available, by potentially pricing them out of the market. For example, customers are unlikely to install In-Home Displays (IHDs) and other technology if the ongoing data costs are too high. Concurrently, the value of

[1] AER, Attachment 13, Classification of services, Final decision, Ausgrid, Endeavour Energy, Essential Energy (NSW) and Evoenergy (ACT) Distribution Determination 2024-29, April 2024, pp..6, 18.

the benefits described above that DNSPs can accrue and pass on to customers, reduces as the price of data increases.

In Attachment A, we provide detailed responses to the consultation questions, reflecting the positions stated above.

If you have any queries regarding this submission, please contact our Regulatory Strategy Manager, Adam Young on 0414 926 406 or via adam.young@essentialenergy.com.au.

Yours sincerely

Hilary Priest
Head of Regulatory Affairs

Attachment A: Responses to selected consultation questions

CONSULTATION QUESTION	ESSENTIAL ENERGY RESPONSE
1: What are the benefits of improving access to real-time data? a) What are the anticipated use cases of real-time data? b) What is the value of the benefits that flow to consumers?	The key benefit of DNSP access to real-time data is in improving response times: • To outages and in identifying the size and extent of an outage • To broken neutral issues and the safety implications of these • To other power quality investigations • To network disturbances/equipment issues prior to failure • To loss of supply notifications particularly to support management of risks to life support customers • To customer complaints (i.e. understanding usage in real time) Longer term and additional benefits in the form of enabling: • Greater network utilisation through fewer assumptions and estimates • Faster and more accurate dynamic operating envelopes enabling greater amounts of CER • Demand Response programs which allow the network to be utilised more fully, or behavioural analytics to deliver and monitor real-time responses • DER system compliance e.g. ensuring no backfeeding during outages • Desktop visibility during planned/unplanned outages and additional confirmation of outage area de-energisation before work commences • Dynamic closed loop voltage control Real time switching and load balancing All of the above leads to a safer, more stable network, with fewer outages and increases customer access without substantial additional cost. In 2016, Essential Energy conducted some analysis of the benefits of direct addressable opportunities arising from the receipt of real-time data from smart meters at no direct cost. This analysis estimated annual quantifiable benefits, as described above, for the network may exceed $50 million per annum. There were additional benefits available direct to customers as a result of non-curtailment of solar production due to export limits or voltage issues. This analysis, while conservative, is subject to a range of assumptions and has not been updated for the latest rule-change proposal.
2: What are the costs of improving access to real-time data?	Essential Energy is a price-taker in the market for data access. While Essential Energy avails itself of volume discounts, there is little in the way of a negotiation on pricing arrangements. Essential Energy can only purchase the number of data points required, at

a) What are the types of costs that would be incurred to improve access? b) What is the magnitude of these costs? c) Who would incur these costs? d) Do the benefits of improving access to real time data outweigh the costs?	the price provided. Contracts for data delivery are also covered by commercial-in-confidence arrangements, so there is little sharing between DNSPs on the prices other DNSPs might pay. As a result, Essential Energy is unable to comment regarding the cost of producing, storage and delivery of real-time data because the market is not transparent. Essential Energy has no methodology to be able to ascertain whether the cost for each data point is reflective of the costs, or what the potential margin is included on the cost of delivery. This market requires a form of light touch regulation to ensure transparency – to enable data providers to recover the direct costs, without extracting monopoly rents at the expense of customers. From Essential Energy's perspective, the benefits to network planning and management and customer experience will outweigh the expected cost of enhanced systems to access and process large volumes of data. If energy and voltage data is provided, as part of basic PQD at no additional costs, then the benefit curve is steep for every additional data point and increase in frequency. However, these benefits decline as the price of data increases to the point where the costs of data can exceed the benefits. Therefore, the cost of data is critical to whether the potential benefits can be realised.
3: Do metering parties currently have a competitive advantage? a) Do you agree with the proponent that metering parties have a competitive advantage in providing services not related to their core functions of settlement, billing and maintenance? b) How would any competitive advantage impact the costs of new energy services to consumers?	Essential Energy agrees that the metering parties have an unfair advantage as they extract the data into their own systems that meet their own needs. In the current system, they are then able to repackage that data and sell it to multiple recipients. In relation to the customer data being gathered, the core function of metering parties should be to ensure timely and accurate billing. It is customers who generate the data and therefore should have direct access to their data as effective data owners. Metering parties collect and are therefore custodians of that data. Ultimately, the primary beneficiaries of data utilisation should be the owners. Customers can benefit from their data in two ways: 1. Directly through direct access in a format they can readily use to assist their own decision-making 2. Indirectly through the actions of electricity distributors, with access to the data, to improve services, reliability and safety. Ultimately, consumers already pay for their meter and its data via their bill. For a DNSP to pay for access to this data means the consumer ends up paying for their data twice. This is exacerbated when DNSPs are asked to pay commercial prices for meter data. In Essential Energy's experience, commercial costs for data have resulted in process improvements ceasing to be pursued as they are inefficient.

4: Do DNSPs need more than PQD to improve network planning and operation? a) Do the benefits of improving DNSP access to real-time data outweigh the costs? b) What are the use cases for DNSPs and other network planners to have access to real-time data other than advanced PQD?	In order to achieve the benefits described in response to Question 1, analysis conducted for Essential Energy's network indicates that, as a minimum it would require the following data (on top of what is already received through our Network Visibility Platform) at 5 minutes intervals (including min/max/average value): 1. voltage / phase 2. current / phase 3. apparent power (kVA) / phase 4. reactive power / phase 5. real power / phase 6. Active and neutral power/state Other important functionality includes: 7. Meter Status 8. Neutral Integrity (Loop) Impedance2 (Ω) 9. Voltage Total Harmonic Distortion (THD) average – per phase 10. Last gasp/ First gasp With regard to the amount of visibility at the customer level vs visibility at transformer, zone substation or other monitorable network assets; there is a preference to achieve customer level visibility as a priority to hit the 100% visibility, this will largely negate the need for monitoring of network assets at the LV level. If the above data is included in the definition of 5min power quality data for the purposes of this question, then other advanced real-time data can be obtained through commercial arrangements. Also, see response to Question 1, noting that a broader definition of PQD would produce even greater demonstrable benefits for customers.
Question 5: Who should have a right to real-time data in the NER? a) Should consumers, their authorised representatives or any other party, including DNSPs, have a right to access real-time data?	Consumers and their authorised representatives, DNSP's and any other party who can show a benefit that reduces the cost of Consumers electricity should have access to the data. It is important to acknowledge the broader societal benefits that arise when network distributors can access real-time data at low or no direct cost, in terms of increased reliability, capacity utilisation and safety of customers. As discussed above, it is critical to note that consumers are already paying for the data to be metered and read, the data should be made available to all who can help to reduce customer's electricity bills.
Question 6: How should real-time data be defined?	The proposed "definition of real-time data: ECA proposes this could be data that is received instantaneously or received within no more than 300 seconds (5 minutes)." is reasonable given the networks existing requirements.

a) Do stakeholders agree with the proposed definition of real-time data and customer power data? b) What should be defined and/or further expanded in AEMO procedures? c) Should data be validated or not?	The proposed definition of "customer power data" to include PQD. PQD should be defined as broadly as possible – including those items outlined in question 4 to ensure that the benefits of access to real-time PQD are achieved at least cost to the consumers who pay for and generate the data. A best endeavors approach should be used for data validation to enable the most "real time" and lowest cost data available.
Question 7: How should real-time data be accessed and shared? a) Do parties, other than metering service providers, need to locally connect directly to the meter to access real-time data? If so, what changes are needed to enable this? b) Are there alternative data sharing arrangements that should be enabled by a rule change, if made?	Real time data should be shared through a secure, consistent, standardised format that is suitable for consumers and their representatives to use to inform consumer decision making. Other parties would benefit from the ability to connect directly to the meter, for example: Household Energy Management Systems or site batteries, or net metered inverters installations would be enabled without additional current transformers.