

Alisa Toomey

Australian Energy Market Commission

GPO Box 2603 Sydney NSW 2000

11th February 2021

Dear Ms Toomey

Review of the regulatory framework for metering services

SATEC (Australia) Pty Ltd (**SATEC**) welcomes the opportunity to make a submission to the Australian Energy Market Commission's (**AEMC**) review of the regulatory framework for metering services.

SATEC has been a global leader and innovator in the research, development and manufacturing of smart metering and energy management solutions since 1987 and exports to over 60 countries. In Australia, our investment in local compliance testing has been rigorous and lengthy. Our leadership in modernising metering solutions uses multipath communication advancements which provide benefits for consumers and other participants who may wish to share access to metering data. SATEC was the first metering manufacturer to receive pattern approval (NMI 6-1) from the National Measurement Institute for a DIN rail mounted smart meter capable of operating as either a three-phase meter or as three (3) single-phase meters, all in one compact meter (125mm x 90mm x 75mm) that exceeds the minimum services set out in the requirements introduced by the Power of Choice reforms.

Set out below are the key themes SATEC wishes to express in relation to this review, with more specific answers to the AEMC's questions included in the attached consultation questionnaire.

1 The Rules should be technology neutral and support technical innovation

SATEC anticipates that there is likely to be a significant increase in the demand for electricity meters in the coming years, driven by the growth in electric vehicles, increasing numbers of distributed energy resources, DNSPs seeking to better manage voltage within their networks, incentives offered to consumers to participate in demand side initiatives, FCAS compliance and the desire of some consumers to participate in peer-to-peer trading of electricity. In addition, aging accumulation meters installed by DNSPs before the Power of Choice reforms will continue to be upgraded and replaced. These trends mean that the many millions of meters needed will take

up considerable real estate on customers' walls, distribution boards, switchgear, mounted in dedicated rooms or other locations. The cost of this 'space' will drive, and indeed is driving, customers to seek smart metering solutions which are compact, accurate and compliant with the relevant regulations.

In addition the restrictions on retrofitting due to space, location or other unforeseen circumstances will drive the consumer to seek compact metering solutions that are approved metering to regulatory standards.

SATEC remains concerned that some of the metering regulations – in the National Electricity Rules (**Rules**), AEMO procedures, jurisdictional legislation and regulations, and network service provider standards – are drafted inflexibly with particular metering installations in mind. In some cases, regulations require meters to have certain physical characteristics which are not appropriate or necessary for modern metering technology. SATEC supports the use of minimum services standards, local regulatory rules and other safety standards, but considers that any requirements imposed on smart meters should be 'technology neutral' so as not to create barriers to innovation.

2 The Rules should facilitate more customer led innovation where appropriate

One of the current issues with the regulatory and commercial framework for metering is that the type of smart meter a customer is provided with is determined almost entirely by the retailer and its agreements with metering coordinators and, in turn, metering providers and meter data providers (and to a lesser extent the embedded network manager). The customer has no real ability to decide what type of meter would suit them best or access the meter's functionality outside of services offered by their retailer.

In practice, we find that most customers are provided with a meter that only meets the minimum services specification and does not take into account a customer's needs or preferences. Customers' preferences may include requirements beyond the minimum services specification – such as in relation to the physical size of the meter and the benefits that may come from having advanced communication features. This situation can be compared to the early days of the mobile phone industry, where customers were provided with phones selected and supported by the phone carrier, rather than being able to freely choose which phone would best suit their needs. With the uptake in requests for solar, electric vehicle charging installations and other sundry services driving the need for multi-point metering solutions, even to the small customer's connection point will need more smart meters connected.

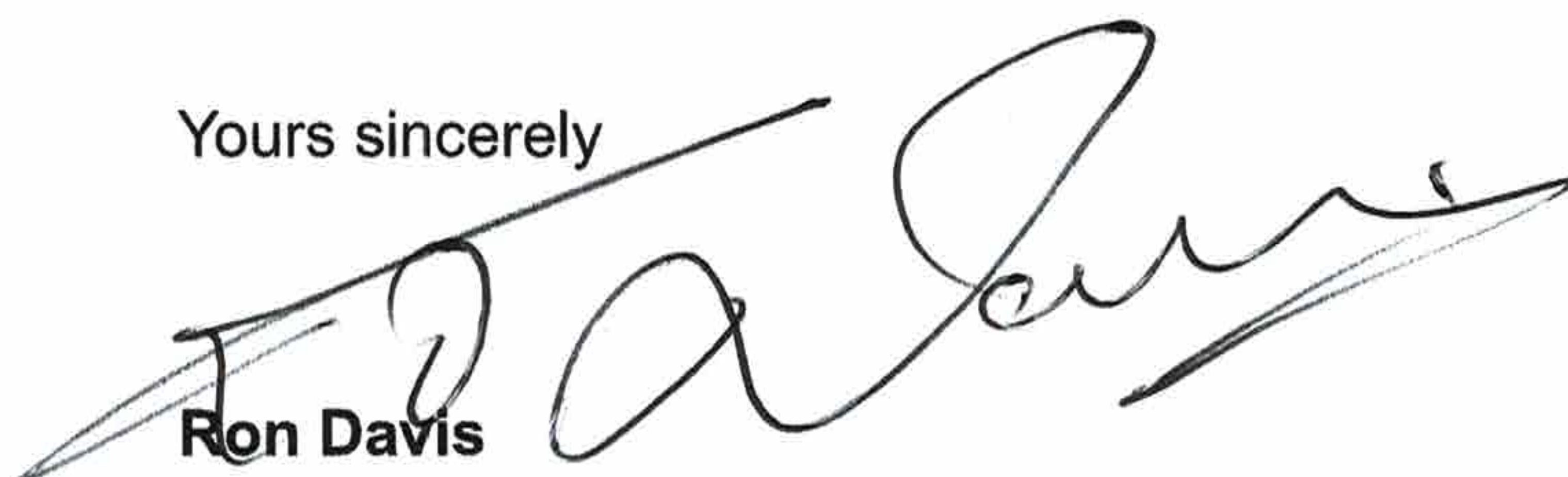
In SATEC's view, customers would be better served by being able to have greater input into the choice of meter that they are supplied with and have greater control over, and access to, the data that is provided by the meter. To facilitate this, retailers should be required to provide customers with options for the types of meters that could be installed and clearly explain the features and benefits of the different meters that could be provided. It may also be appropriate for customers to have the right to

own their meters or for metering coordinators to be required to grant access to metering data on particular terms. We consider that these recommendations could be adopted for all small customers, but at a minimum should be adopted in situations where a developer is seeking the connection of multiple connection points (such as in the case of a residential apartment block, commercial office building, airport, data centre, unmetered loads, shopping centre, or greenfield residential or mixed use development as examples).

As well as giving customers a choice about what kind of meter would suit their needs best, this approach may also result in customers thinking more about the role of their meter in providing the types of benefits envisaged by the Power of Choice reforms and lead to a greater uptake of cost-reflective tariffs and demand side participation.

SATEC appreciates the opportunity to contribute to the AEMC's review of the regulatory framework for metering services and would welcome further discussions with AEMC if that would be of assistance. Please contact Ron Davis by email at ron@satec-global.com.au or phone on +61 2 4774 2959 if you have any further questions.

Yours sincerely


Ron Davis

Managing Director | SATEC (Australia) Pty Ltd

REVIEW OF THE REGULATORY FRAMEWORK FOR METERING SERVICES

STAKEHOLDER FEEDBACK TEMPLATE

The template below has been developed to enable stakeholders to provide their feedback on the questions posed in the consultation paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

SUBMITTER DETAILS

ORGANISATION: SATEC (Australia) Pty Ltd

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DATE 11 February 2021

PROJECT DETAILS

NAME OF RULE CHANGE: Review of the regulatory framework for metering services

PROJECT CODE: EMO0040

PROPOSER: AEMC

SUBMISSION DUE DATE: 11 February 2021

CHAPTER 1 – INTRODUCTION

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| 1. Consideration of other market reforms and related work | |
| 1.1 Are there other significant market reforms that are likely to impact the metering framework that the Commission has not identified? | |
| 1.2 Is there additional related work that the Commission should consider in this metering review? | |
| 2. Assessment framework – Do you agree with the Commission's proposed Assessment Framework for this review? Are there any additional criteria we should consider as a part of this framework? | <p>One additional criteria the AEMC should consider is the extent to which the regulatory framework either facilitates or creates barriers to technological innovation in metering, providing the metering meets legal compliance to Australian and international standards. Potentially this criteria could be considered as part of the 'facilitating positive customer outcomes' or 'regulatory and administrative burden' criteria the AEMC has identified, or it could be considered as a standalone criteria.</p> <p>Having a regulatory framework which encourages innovation in metering may help to prevent the 'minimum services specification' needing to be updated in response to future technological developments, drive improved consumer outcomes, and foster competition in the metering market, but instead would keep and expand on the minimum services specification to improve delivery of advanced metering solutions.</p> |

CHAPTER 3 – THE CURRENT STATE OF METERING

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| 3. Expectations of meter rollout | |
| 3.1 How does the roll out of smart meters to date compare with your expectations? | |
| 3.2 Is the current pace of smart meter deployment appropriate? What should be the appropriate pace of rollout? | |
| 3.3 What benefits are smart meters providing consumers? Have the benefits changes or improved over time? | <p>The benefits of smart meters are limited by the services that the MC and the retailer choose to provide, and somewhat correlates to the limitation of traditional metering installations compared to more modern technology. The Rules should be amended to improve customers' ability to access and choose their meters to facilitate future advanced services independent of the MC and retailer.</p> <p>SATEC has seen more consumer engagement in becoming aware of legally compliant alternatives as technology in</p> |

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| | metering advances. It is evident to us that consumers, small and large, are becoming educated on the advantages of obtaining and analysing data on a mass scale and promptly to deliver advanced services, such as demand response. |
| 3.4 have the prices for smart meters plus the costs of associated products and services changed from the introduction of <i>Competition in metering</i> ? If so, how? | <p>In relation to prices for smart meters, innovation in metering has advanced since the introduction of <i>Competition in metering</i>. Costs have decreased particularly now with multi-channel-metering-systems facilitating hyper-dense installations, significantly decreasing installation space requirements – new multi-point customers, can eliminate the necessity for expensive upgrades or new electrical switchboards decreasing costs for uptake of smart meters particularly at small customer connection point (eg. mains, solar generation, solar consumption, ev charging, vehicle-to-grid).</p> <p>Recent COVID-19 issues have put pressure on supply chains and increased component costs, but overall, the costs of manufacturing smart meters are decreasing as technology advances. Advanced processors and new memory types used for FCAS type compliance provide greater power and performance at market agreeable pricing to the consumer. Hyper-density installation necessity, has seen electronics and metrology circuits miniaturised such that the decrease in installation space, improves cost effectiveness of uptake in smart meters.</p> |
| 4. Are incentives in the right place? | |
| 4.1 Are the incentives in relation to smart meter rollout correct? Please provide details on why/why not. | The existing regulatory framework does not provide any incentive for retailers and MCs to supply and install meters other than those that meet the minimum services specification. Providing consumers choice in the selection of metering technology that enables advanced services should be considered and the Rules should be amended to allow customers greater rights to request particular types of meters where appropriate. |
| 4.2 Is the current market structure financially viable? If not, for whom is it not financially viable? | |
| 5. Drivers of smart meter roll out | |
| 5.1 What were your expectations regarding the drivers of smart meter rollouts? | <p>We expected that smart meter rollouts would be driven by consumer preferences and technology-driven smart meter adaptation as technology advances.</p> <p>We consider that consumers' seamless and transparent access to data services should improve awareness of the benefits of smart meters and therefore drive consumer engagement with the advanced metering services currently available or that may be developed in the future.</p> |
| 5.2 Has there been any changes in the overall reasons for installing smart meters since the <i>Competition in metering</i> rule commenced? | Social, environmental and sustainability trends have resulted in technological developments that require smart metering technology. Compact metering installations are increasingly required by the market, in particular the embedded network industry, such that smaller footprint, but legally compliant solutions (which are available now), should be supported by |

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| | Australia's metering regulatory frameworks as these solutions will help ensure a faster roll-out of smart meters. |
| 5.3 Which parties should be responsible for driving the roll out of smart meters? | Consumers and owners of the assets and other stakeholders where metering data could be beneficial. |
| 5.4 Do consumers have clear information on the benefits of smart meters and their rights relating to requesting a smart meter? | We expect that consumers have limited information in respect of their rights with few metering solutions available in the market at this stage. |
| 6. Customer experience – what are your views on the customer experience in relation to smart meter rollout and installation? | The benefits that customers receive from their meter are limited by the services that the MC or retailer provide. The metering regulatory framework should be amended to allow customers greater control over, and access to, their meter and the data that is extracted from it. |
| 7. Industry Cooperation | |
| 7.1 Do you have any suggestions on how industry cooperation can be improved? | The current structure of the regulatory responsibility of metering coordinators is preventing new technologies in metering being introduced. The consumer should be given the choice to select particular services and MC framework should be improved so that MC must support customer-driven technologies. |
| 7.2 Are changes to the market structure or roles and responsibilities needed to improve the consumer experience? | |
| 8. Expectations of metering services | |
| 8.1 What expectations did you have around the services that smart meters would provide? | |
| 8.2 What services are being provided by smart meters currently? Are these services widely available? | |
| 8.3 What services did you expect from smart meters which have not eventuated? | |
| 8.4 Are there any services being provided by smart meters which were not anticipated at the time of the <i>Competition in metering</i> rule change? | |

CHAPTER 4 – THE FUTURE STATE OF METERING

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| 9. Collection and use of metering data | |
| 9.1 In relation to metering data, what data should be | |

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| captured by smart meters, and why? | |
| 9.2 In relation to metering data, who should be able to access metering data, and how? What protections should be in place? | |
| 9.3 What impact do you think the Consumer Data Rights may have on the access to, and use of, metering data? | |
| 10. Future metering services | |
| 10.1 What is your understanding of the other services that smart meters can provide? | FCAS compliance and DER advanced system interoperability will be facilitated by modern smart meters with improved communications systems/technologies as compared to communication systems currently utilised by the market. |
| 10.2 What future services do you expect or want metering to facilitate? | Technological innovation is resulting in increased numbers of solar PV systems, battery charging systems and EV charging systems. Because of this, in the future it is expected more individual metering hardware will be required to be installed at a customer's premises. To facilitate this without the inefficient duplication of metering equipment, the Rules should allow the customer greater control over, and access to, their meter and metering data. |
| 10.3 If additional services are to be provided by smart meters, how should the costs of providing these services be allocated? | The cost of these services should be borne by consumers based on consumer requirements. The MC should be required to facilitate consumer requests. |
| 11. Penetration of smart meters required | |
| 11.1 Are particular metering services only cost effective when a particular penetration is achieved? If so, what services and what penetration is required? | |
| 11.2 What other factors are important in determining whether the provision of particular services are efficient or effective (e.g. geographic spread). | |

CHAPTER 5 – ARE CHANGES REQUIRED TO THE REGULATORY FRAMEWORK?

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| 12. Encouraging the adoption of smart meters and future services | |
| 12.1 Is the current regulatory framework appropriate for the current needs of metering and the market? Is it flexible enough to provide encouragement | <p>The current regulatory framework around smart meters is inflexible and focused on traditional metering products and technologies.</p> <p>A good example of this are the potential barriers to introducing mA current transformers to the NEM. The existing</p> |

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| for the development of future services in metering? | <p>regulatory framework does not readily support mA current transformers. The mA current transformer accuracy, including linearity and phase shift, exceed the revenue-grade 5A output CTs. In addition, it provides additional safety barriers not provided in traditional 1A and 5A CT secondary outputs. This technology has been used in Canada for the last 10 years. The current AEMC regulatory framework only supports traditional 1A, 5A current transformers, effectively 'locking in' particular technology types at the expense of innovative solutions.</p> <p>The MC, MP and MDP arrangements and minimum metering specifications act as a barrier for innovation and introducing new products, in part because there is limited incentive for these participants to provide meters which provide an optimal customer solution, rather than the regulatory minimum solution.</p> <p>While SATEC considers it is important that innovation be supported, we also consider it important that any current and new meters should be compliant, tested and verified with local and international standards, such as NMI M6-1 and NITP-14 and that the minimum services specification should be maintained per metrology accuracy classes AS/IEC62053-22 (eg. Class 0.2S, 0.5S) and AS/IEC62053-21 (eg. Class 1) respectively for trade measurement application.</p> |
| <p>12.2 To encourage the higher adoption of smart meters:</p> <p>(a) What changes, if any, need to be made to the current regulatory framework for metering services?</p> <p>(b) What changes, if any, need to be made to other instruments? (e.g. regulatory instruments, guidelines, codes)</p> | <p>(a) The regulatory framework should be improved to allow consumers greater rights to choose the types of meters that are installed, the level of services that the meters can provide, and the level of access they have to the data from their meters.</p> <p>(b) Jurisdictional electricity metering regulations should be reviewed to remove unnecessary requirements which expressly or impliedly prescribe meters with particular physical characteristics in order to better support the roll-out of physically smaller, but technologically more advanced, meters that are being sought in an increasing number of applications (such as EV charging stations and telecommunications applications).</p> |
| 12.3 Are there any other avenues of encouragement that are available that the Commission has not considered in this paper? | |
| 13. Barriers to realising the benefits of smart meters | |
| 13.1 Are there other barriers that were not identified by the Commission that you have found to prevent the realisation of benefits of smart meters and/or slowed the rollout of smart meters in the NEM? | <p>As a result of advancement in metering technologies, new meters are significantly smaller when compared to traditional meters. The current Rules framework (and other jurisdictional regulations – including service installation rules) needs to be revised to better accommodate technologies (including new, yet to be developed, technologies), by ensuring that, to the extent possible, the requirements in the Rules are performance requirements focussed on achieving desired outcomes rather than technical requirements which entrench</p> |

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| | particular technical solutions and ultimately prohibit innovation. |
| 13.2 What changes, if any, need to be made to the current regulatory framework for current arrangements to improve deployment? | The framework needs to be revised so that the MC is obligated to support consumer-driven metering technologies as innovation and technology changes occur to allow more advanced services to be provided. |
| 13.3 Are there other tools outside of the regulatory framework that may address some of the current barriers to realising the benefits of smart meters and/or the slower rollout of smart meters in the NEM? | |

OTHER COMMENTS

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| 14. Information on additional issues | |
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REGISTRATION OF INTEREST FOR REFERENCE GROUP

If you are interested in nominating for the Review of the regulatory framework for metering services Reference Group you can email registrations@aemc.gov.au or provide details of the person you would like to nominate below:

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| Name | Dean Davis |
| Position | Director of Technology & Operations |
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