

30 January 2014

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

**Subject: EMO0028 Framework for Open Access and Common Communication Standards Review,
Draft Report**

SA Power Networks welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) draft report on the framework for open access and common communication standards.

SA Power Networks endorses the ENA position

SA Power Networks supports and endorses the position set out in the detailed response to the AEMC draft report submitted by Energy Networks Australia (ENA) on behalf of the industry.

In particular, SA Power Networks supports a future national framework for metering that:

- Enables a transition to cost reflective network tariffs as quickly as practicable
- Benefits customers through economic achievement of future network operational benefits
- Enables a competitive, open and fair market for demand side services
- Maintains current metering-enabled services and efficiently leverages existing investments
- Facilitates broader adoption of smart meters while minimising cross-subsidies and any associated price impact on customers.

SA Power Networks shares the concern raised by ENA that this review is one of a package of activities arising from the Power of Choice review that are proceeding in parallel and in advance of the broader rule change proposal around contestability in metering services. As there are critical dependencies between these activities, and the present review relies on a number of assumptions regarding the future contestable market, we agree with ENA that the whole package of reforms must be considered in an integrated manner before final decisions are taken.

With respect to the specific questions raised in the AEMC draft report, our key comments are as follows:

- SA Power Networks supports the adoption of a common market gateway for access to smart meters, and a common market protocol.
- SA Power Networks supports the future adoption of a national standard meter protocol, but consider that the first priority should be the development of a market gateway and market protocol.
- SA Power Networks supports a common market gateway as the 'point of entry' for parties seeking access to meter functions and data. We do not support a model that relies on multiple parties connecting directly to the meter to access data and services, which we

believe would be inefficient and lead to issues with security and access control, telecommunications costs and network congestion.

- SA Power Networks supports a national standard for smart meter services that standardises all market functions recognised in the national Smart Meter Infrastructure (SMI) Minimum Functionality Specification.
- SA Power Networks supports the categorisation of services into 'Basic,' 'Advanced' and 'New' on the basis that:
 - All smart meters must provide access to all Basic services via the market gateway
 - Accredited parties do not pay to access Basic services
 - Basic services include both metrology functions and a defined set of network services. We disagree with the view that only metrology functions are Basic services
 - All smart meters must be capable of all Advanced services, even if not all are enabled
 - Where Advanced services are enabled, they must be made available to all authorised parties via the market gateway
 - All services contemplated in the SMI specification that are not Basic services are Advanced services. 'New' services are future innovative services that are outside the scope of the SMI specification.
- Existing services must be preserved when the Metering Coordinator (MC) changes.
- Where the MC provides advanced services to a party that has no power under the rules to appoint a different provider, the MC enjoys an effective monopoly. In this scenario, price regulation may be required to ensure efficient pricing.

Our position is set out in further detail in our response to the specific questions raised in the AEMC draft report, included as Attachment 1.

Should any of our comments be unclear, or the AEMC require further clarification, please contact Mark Vincent, Manager Network Investment Strategy, on (08) 8404 5284.

Yours sincerely,



Sean Kelly

General Manager Corporate Strategy



Attachment 1 – response to specific issues

5.1 We recommend that a common market protocol be used for smart meter communications

SA Power Networks supports this position. SA Power Networks supports the goal to enable a vigorous, open and fair market for demand-side services, and considers that this goal is best served by a metering framework that has well-defined common standards at the market level.

5.3.4 We are seeking stakeholder views on the appropriate selections of a common market protocol. In particular:

- Should an internationally accepted meter protocol form the foundation of the NEM common market protocol?
- Is DLMS/COSEM sufficiently well developed to be used as the foundation for a market protocol, given the potentially [sic] synergies that exist with smart grid interoperability and other meter standards?
- Would the costs of developing an Australian specific services based common market protocol be likely to deliver sufficient benefit compared to using an internationally accepted metering protocol?

Would extensions of the B2B gateway present a viable option for the development of a services based common market protocol?

SA Power Networks considers that common standards for metering should be expressed in terms of metering services, not simply meter functions or protocols:

- A metering service is a service available to market participants provided by the metering coordinator (MC) using the metering installation
- A metering service is accessed via a common market gateway, and all market participants that access the service do so using the same standard market protocol.

A meter protocol such as DLMS/COSEM or ANSI C12 is not in itself sufficient to define a market service. At the market, a metering service comprises:

- One or more functions
- The standard interface market participants use to access those functions through the common market gateway
- Performance requirements (e.g. timeliness and reliability of data delivery; there is little value in a 'last-gasp' alarm or an emergency load shed command unless it is delivered in a timely manner)
- Access rights (which parties have the right to access the service).

On this basis, noting that developing standards is beyond the scope of this review, we offer the following:

- SA Power Networks supports the use of an internationally accepted meter protocol as a foundation for the NEM common market protocol. Incorporating, as far as practical, elements of a standard meter protocol in the market protocol will reduce integration effort for meter providers, and drive standardisation at the meter.



- We note that DLMS/COSEM offers features that are required for a market protocol, such as a well-defined model for security and access control, unsolicited notifications (meter-originated events) and a rich and extensible object model for meter data elements. On this basis it appears to be a suitable basis for a market protocol. We do not have a view on the extent to which the final market protocol should incorporate all of these elements from DLMS/COSEM, or only some of them (e.g. the object model). This will require a level of technical assessment that is beyond the scope of this review.
- SA Power Networks considers that the market protocol may benefit from features that do not map directly to a meter protocol, and we would not favour constraining the market protocol to conform exactly to a meter protocol if this resulted in inefficiency at the market gateway. For example, it may be beneficial for the market gateway to continue to support functions that operate on sets of meters (as is the case for the current B2B gateway), e.g. to return interval data for a large number of meters in a single transaction rather than executing a transaction for each meter.
- SA Power Networks favours a pragmatic approach to the development of the market protocol that incorporates and extends the current B2B functionality and enables the gateway to be established in a timely manner, so that the uptake of smarter meters is not unduly delayed.

5.1 We recommend that the development and on-going maintenance of the common market protocol be undertaken by an independent entity such as AEMO.
We welcome comments on whether these are the appropriate parties

SA Power Networks supports the appointment of an independent entity to maintain the common market protocol, and consider that AEMO would be an appropriate party to take on this role.

5.1.1 We are seeking comment on the following options:

- Adopting a common meter protocol based on the internationally accepted DLMS/COSEM protocol;
- Adopting a common protocol based on the DLMS/COSM protocol, except in Victoria where protocol translation could accommodate existing metering investment; and

No common meter protocol is adopted and protocol translation is allowed throughout the NEM

SA Power Networks supports the future adoption of a national standard meter protocol based on internationally accepted standards, but considers that the first priority is the development of a market gateway and market protocol. We do not believe that a standard meter protocol is a prerequisite for enabling interoperability at the market level in order to enable a competitive market for demand side services, which is the primary goal; existing smart meters in Victoria and elsewhere could be included in the market gateway through protocol translation. As DLMS/COSEM meters are not widely used in Australia at present, the transition to a common meter protocol will take time, and this should not delay the establishment of the market gateway. In the long term, however, the adoption of a national standard meter protocol that aligns with the market protocol will deliver the best outcome.



5.4.1 We are seeking stakeholder views on the appropriate entity to maintain the documentation for a common market protocol. In particular:

- Would AEMO be the most appropriate entity to develop and maintain the common market protocol?
- Is there the potential for the responsible entity to adversely impact on the competitive provision of DSP and related services?

Would AEMO be regarded as sufficiently neutral, should the common market protocol be based on the existing B2B arrangements, as the B2B procedures are maintained by the Information Exchange Committee, established by AEMO?

SA Power Networks considers AEMO would be an appropriate entity to develop and maintain the common market protocol. We do not foresee any issue with AEMO's neutrality based on its role in maintaining existing B2B arrangements; AEMO's goals are aligned with the NEO, and we believe that the new market gateway should be an evolution of existing B2B arrangements in order to facilitate and expedite transition.

5.4.2 We are seeking stakeholder's views on whether the accredited parties and MPs should be required to define new functions in the smart meter functionality specification before they can be implemented. In particular:

- Would requiring new functions to be fully documented before they are used stifle innovation and reduce competition in the provision of DSP and related services?

Would not requiring new function to be documented be likely to lead to reduced levels of interoperability, and hence reduce competition in the provision of DSP and related services in the longer term?

SA Power Networks agrees with the view expressed in the Working Group that the framework needs to allow room for innovation and the development of new services that enable MCs and other market participants to differentiate their offerings. As and when a new service matures and becomes widely used, it will be appropriate and beneficial to all to codify it as a new advanced service available through the common market gateway. This will be facilitated if the common market protocol is properly designed in terms of extensibility and support for service discovery.

5.5 We are seeking stakeholder's views on whether a common meter protocol should be adopted, or whether SMPs should be able to use protocol translators. In particular:

- should there be a common meter protocol?
- if a common meter protocol is required, should it use the internationally accepted DLMS/COSEM protocol as its foundation?
- if a common meter protocol is required, should existing Victorian smart meter operators be required to offer a protocol translation to the new common meter protocol?
- without a common meter protocol do proprietary meter protocols (and protocol translations) be more likely to support competition in DSP and related services?

SA Power Networks does not believe a common meter protocol is a pre-requisite for enabling competition in DSP and related services, which is the primary goal. This can be achieved through a common market protocol. SA Power Networks considers, however, that in the longer term a transition to a national standard meter protocol will deliver the best outcome, as it will drive



competition and economies of scale in the market for meters, and minimise the cost of integration with the market gateway.

We note, however, that a common protocol such as DLMS/COSEM would not in itself be sufficient to ensure full interoperability as defined in the AEMC draft report, because different meters may use the same protocol but different and non-interoperable telecommunications solutions, even when provided by the same metering provider. In the UK, for example, carrier O2 intends to use mesh radio to fill in areas where its own cellular coverage is lacking, and hence will operate at least two kinds of meter that are not interchangeable. Long-range radio will be used in the Northern part of the UK in areas where the terrain and population density make this the best solution. Similar practical considerations will apply in Australia: the broader introduction of smart meters is likely to be achieved most efficiently using a mix of telecommunications technologies, and the framework should not unnecessarily constrain the choice of telecommunications solution available to a MC, so long as required performance levels are met.

5.6 Allowing direct access to the meter using a common market protocol, which would also be a common meter protocol, would give the smart meter infrastructure a high degree of interoperability...

Having a market point of entry improves the ability of the SMP to manage security of access to the smart meter's functionality. This architecture also allows the SMP to implement congestion management by prioritising of communications with the smart meter and to validate messages sent to the smart meter.

In addition, having a market point of entry allows for the possibility of the meter protocol being different to the market protocol.

SA Power Networks supports a common market gateway as the 'point of entry' for parties seeking access to meter functions and data. We do not support a model that relies on multiple parties connecting directly to the meter to access data and services, as this would:

- Make each individual meter responsible for enforcing security and access control, increasing cost and complexity of managing access rights and increasing the risk of security breaches and unauthorised access
- Prevent effective management of congestion in the telecommunications network, potentially making it impossible to guarantee telecommunications performance for critical data such as emergency load shed commands, in particular given that the number of parties that may seek access to meter data in future cannot be predicted
- Increase telecommunications costs, as the same data may be served by the meter to multiple parties in separate requests, and traffic profiles could not be managed effectively (e.g. to make use of 'off peak' times in commercial telecommunication networks)
- Preclude some telecommunications technologies that may otherwise be the most appropriate and efficient
- Be incompatible with existing deployments.

SA Power Networks supports the standardisation of Home Area Network (HAN) functionality as part of the set of services codified in the common market gateway. We see the HAN as the only practical vector by which third parties would access data in the meter directly without going through the market gateway (other than for the initial device binding), and we believe the level of access available via the HAN interface should be fully defined as part of the standard market specification.



- 5.6 We are seeking stakeholder's views on whether the protocols at the meter point of entry and the market point of entry support access to new functionality without the need to make any modifications to the SMP software.

A MC that wishes to offer a new function or service can do so without enabling third parties direct access to the meter, by providing a suitable interface. SA Power Networks believes that direct access to the meter should be strictly limited to those parties that can be properly held accountable under the NER for the safety, security and privacy aspects of the metering service.

We also note that, in practice, some 'new' services may simply be expressed as the measurement or calculation of some new, non-standard quantity by the meter (e.g. an additional metering element). These could be supported by the standard market protocol with no change, assuming the protocol has an extensible data model. Similarly, an innovative demand-side service that involves a device bound to the HAN might be fully supported using the standard suite of HAN functions defined in the market protocol, if the innovative features reside in the HAN device itself.

- 5.6.4 We are seeking stakeholder's views on the proposed architectures above. In particular, should the proposed architecture of:

- a protocol translation at the point of entry (Figure 5.1) be supported in the NEM?
- a common meter and market protocol (Figure 5.2) be supported in the NEM?
- the proposed protocol that allows communication via either the meter protocol or the market protocol (Figure 5.3) be supported in the NEM?

In addition, we are seeking stakeholder's views on whether changes to the NER would be required to allow the SMP to manage access, security, congestion and message validation required for smart meter deployments?

Further commentary on the proposed architecture is included in Attachment 3.

SA Power Networks expects that the roles and responsibilities of the MC, MDP and MP will need to be reviewed to ensure that responsibilities for access, security, data privacy, auditing, message validation and performance are clearly assigned and align with the final framework for open access.

SA Power Networks considers that regulation should be clear about responsibility and accountability, but should not be prescriptive about how accredited parties discharge their responsibilities. As an example, if the MC is the party responsible for ensuring that service performance levels at the market gateway are met (e.g. delivery times for critical commands), then they may elect to put in place a system for congestion management and message priority, depending on their telecommunications solution(s), but such 'congestion management' is a means to an end, and not a requirement of itself.

SA Power Networks supports the ENA view that any changes in the NER to support this framework would have to be made in a coordinated manner, taking into account the outcomes of the various other activities resulting from the Power of Choice review that are currently underway, and the broader direction in relation to contestability in metering.

- 5.7 We have created the role of SMP for the purposes of analysis and understanding the additional responsibilities required under the deployment of smart meter infrastructure. Possible options for the SMP include:

- a separate SMP role to increase the flexibility of the commercial arrangements available to the MC;
- assigning the SMP's responsibilities to either the MP or MDP; or



- sharing the SMP's responsibilities between the MP and MDP.

Consideration of whether it could be part of the MC role would be required if that rule is implemented following the Commission's considerations of the competitive metering rule change request.

We note that separate SMP role would not preclude any one entity engaging in one or more of the MC, MP, MDP and SMP roles. In addition, it would be expected that access to the smart meter infrastructure's point of entry would be negotiated with MC.

We are seeking comment on whether the SMP's responsibilities should be retained in a separate role, or whether these responsibilities should be assigned to an existing entity.

SA Power Networks is not satisfied that the need for a new market role, the SMP, has been demonstrated. We believe that the proposed functions and responsibilities are natural extensions of the MC (as proposed) and MDP roles. For example, rule 7.7 in the NER today states that the *responsible person* is responsible for ensuring that access to meter data is scheduled appropriately to prevent congestion in the communications network.

In general, SA Power Networks favours a framework that is as simple as possible, minimises change from the present rules and does not introduce additional complexity into what is already a complex set of relationships.

6.1

We note that the NER sets out rights and obligations for metering data. These provisions are to be maintained. The considerations of this review relate to impacts of the introduction of smart metering infrastructure.

We welcome comments on:

- whether the right of access to smart meters should be enforced under the NER and, if so, to what degree (e.g. should right of access apply to all smart meter functions or in relation to providing certain services);
- what are the contractual arrangements that are expected to be in place and to what extent these contractual relationships are to be supported by rights under the NER;
- how the market (the NEM as a whole or the retail energy market) would be impacted if participants are denied access to smart meters; how would different participants be impacted; &
- how the existing rights and obligations relating to the use of metering infrastructure and metering data would be impacted by smart meters.

SA Power Networks considers that:

- Network stability, customer safety and customer privacy must be primary considerations in establishing the framework and in regulating rights of access. The goal of enabling a market for demand side services must be subordinate to the overarching goals of the NEO.
- Network operators' ability to operate the network safely and efficiently must not be compromised. In practice this will mean that the right to access specific functions such as emergency load shed commands must only be provided to the network operator.
- Subject to effective security controls, and subject to customer consent, all authorised demand-side service providers and energy market participants should have equal rights of access to meter data and services. It is not in the customer's interest for the party that controls the meter to restrict third-party access to meter functions, be it through technical means or commercial barriers, in order to impede competition for demand-side services.



Simply, the service provided by smart meters could be separated into 'metrology services' and 'other services'. The metrology services would be the energy measurement services, which are also currently provided by 'basic meters'. The measurement services could be considered essential to the NEM as they are required to allow settlement and billing to occur. Whereas further consideration is required of how to define other potential services that may be enabled by smart metering technology.

The types of services that are being provided, and whether there would be alternative means of providing these services, would impact the extent (and type) of access regulation that may be required.

We welcome comments on:

- how the services that could be enabled by smart meters be defined and should these services be subject to regulation;
- whether there would be alternative means of providing these services other than through a smart meter.

In the following, we define a smart meter as one that is capable of daily remote acquisition of interval data. A smart meter that conforms to the proposed open access framework may be designated a 'Type 8' meter to differentiate it from a 'Type 4' remote access interval meter¹.

SA Power Networks supports the position set out in the ENA response, that services should be categorised as follows.

Basic Services:

- A MC operating a smart meter in the market must provide all Basic Services for that meter.
- The cost of providing Basic Services is fully recovered by the MC through their contract with the customer or retailer.
- Another party that is accredited and authorised to access a Basic Service through the common gateway does so free of charge, as is the case today with the provision of interval data through the Australian Energy Market Operator (AEMO) B2B gateway.
- Basic services include both metrology functions and a defined set of network services. We disagree with the view that only metrology functions are basic services

Advanced Services:

- Advanced Services are services that are optional but, to the extent that they are provided, they must be provided in a standard way to all accredited and authorised market participants through the common market gateway.
- A MC may not offer a metering service that is substantially similar to an Advanced Service to any party (e.g. under a private commercial agreement between the two parties) without also offering the corresponding Advanced Service through the common market gateway.
- While Advanced Services are optional, every smart metering installation must be capable of supporting all Advanced Services in its installed configuration. That is, it must be possible to enable any Advanced Service at a smart metering installation without adding or changing hardware components or attending the customer premises.

¹ Note that in the following we assume a type 8 meter is a new meter; we are not proposing that the framework should be applied retrospectively to existing installations



- When a meter is replaced or the retailer or customer changes MC, the new MC must continue to provide all Advanced Services that were previously provided for that metering installation (or provide Advanced Services equivalent to the services previously provided, if the previous meter was not a 'Type 8' meter)
- Accredited and authorised parties wishing to access Advanced Services do so under a commercial arrangement with the MC, which may include a reasonable fee for access. Setting these fees may require some regulatory oversight to ensure that they are reasonable, as discussed further below.

New Services:

- New Services are metering services that are not Basic Services or Advanced Services.

SA Power Networks considers that every meter must be capable of supporting all Advanced Services, even if these are not enabled initially. In taking this view, we have taken into account the likely incremental cost of including support for these features relative to the overall cost to supply and install a new remotely-read meter. We are seeking to avoid adverse outcomes such as those identified by the New Zealand Parliamentary Commissioner for the Environment in its 2013 *Update Report on Smart Electricity Meters: How households and the environment can benefit*, which reviewed the market-led smart meter rollout in New Zealand. This report stated:

"It was found that the electronic meters that were being rapidly rolled out in New Zealand are not particularly 'smart'. They could have included a low-cost component that would link the meter to a home area network ... This would have made it easy for householders to access real-time information on their electricity use using conveniently located displays, and enabled the introduction of smart appliances.

Regulatory intervention should not be done lightly and this is an area of rapid technological change. But the opportunity for delivering benefits to the householder and the environment at a small increase in the cost of the meter has been lost; retrofitting additional features is likely to be much more expensive."

Given the definitions above, SA Power Networks supports ENA's proposed high-level categorisation of the services defined in the SMI Minimum Functionality Specification as Basic and Advanced Services, included in Attachment 2.

6.3

We consider whether access charges should be regulated warrants further consideration. We will assess the extent to which potential inefficiencies exist:

If a problem is identified, we would then need to assess how the problem could be addressed. This will require considering the options for price regulation within the current regulatory framework and having regard to potential developments such as SCER's work on the regulation of third party energy service providers and the metering contestability rule change request. We would need to be cognisant that any regulation needs to be proportional to the problem we are attempting to address.

We welcome comments on:

- under a contestable market for the provision of services enabled by smart meters, could we



be confident that efficient pricing outcomes for access charges would be likely to emerge; and

- whether there would be risks to efficient pricing outcomes and, if so, how the risks may they be addressed.

Some Working Group members have argued that networks should pay a fee to access any network-related functions in the meter, on the basis that the network benefits that arise from these functions accrue to the broader customer base, not the individual customer, and hence the cost to provide them should properly be recovered through network charges, not metering charges.

While we accept the principle that underlies this argument, we have proposed above that a standard set of network functions must be provided for every smart meter as 'basic functions,' and made available to the network business at no charge (that is, the cost to provide them must be fully recovered within the metering charge). We believe this is essential for the following reasons:

- The marginal cost to the metering provider to provide these basic functions for a 'Type 8' meter will be very low, as will be the value attached to an individual network function on a single meter. As such, the administrative costs on both sides when MCs recover their marginal cost through charges on network businesses are likely to be excessive relative to the available value. Consumers will ultimately bear the costs of administering these transactions through their metering charges and network fees, and are likely to be worse off than under the more simple arrangement we propose.
- The value of the network functions at an individual meter will vary according to a number of factors, such as whether the meter is in an area where the distribution network is constrained during periods of high demand, whether it is in a metropolitan, rural or remote area, whether the area is served by overhead or underground network infrastructure, and so on. Moreover, the value of the network functions at an individual meter may vary over time. In particular, some functions only become valuable when there is a sufficient penetration of smart meters in a neighbourhood, which may only occur when all meter providers serving the neighbourhood provide the function. An example is a 'last gasp' loss of supply alarm: a single alarm in isolation has almost no value to the network, but when all meters in a neighbourhood are smart meters networks can correlate multiple last gasp alarms to estimate the location of a fault. Such functions may only be implemented when MCs have the certainty and immediacy of recovering the marginal cost to implement through their metering charge, rather than relying on uncertain future revenue from charges to networks.
- For some functions the value is split across multiple parties. Taking the 'last gasp' alarm as an example again, all customers in the neighbourhood may benefit from more timely restoration of service following a fault – a benefit delivered through the network. However, the individual customer with a smart meter also benefits from the fact that their fault may be detected automatically when they are not in a position to report it themselves (e.g. if power is lost during the night or when they are away from the premises), and so this is a value-added service from the customer perspective. Retailers and third-party energy services providers may also benefit from knowing when their customers are off supply. It will not be possible in practice to recover fees from all parties commensurate with the available value; ultimately, the customer will pay more under such an arrangement than had the small incremental cost to provide the function been simply recovered through the metering charge.

For some advanced network functions where there is a material marginal cost for the MC to provide the function, and where the value is entirely attributable to network benefits, we believe that a fee



for access could be considered. However, we foresee the following risks to efficient outcomes that would have to be addressed through the framework:

- If a meter coordinator can choose to install meters that don't support network functions, future network benefits cannot be realised, which ultimately increases (or fails to reduce) cost to all customers
- If a meter coordinator chooses to charge excessive fees for the provision of network data and services, networks must recover these fees through regulated network charges. Hence profit-taking by the meter coordinator will be reflected in increased network charges to the consumer
- The MC enjoys a monopoly on the provision of network data from the meters it controls. If the network business does not appoint the MC, it has no commercial lever to influence the fees set for network data and services. This creates a perverse incentive for the MC to increase charges to networks (and others) in order to cross-subsidise its service offering to retailers and customers, where it faces real competition. In the absence of regulation the only control on price is the relative cost to the network to achieve the same benefits via other means (installing its own meters alongside the MC's as has occurred in New Zealand, deploying monitoring at the LV transformer, etc). This will lead to inefficient pricing and increase cost to the customer.

For these reasons, if networks are to pay for access to certain meter functions, we believe that some form of price regulation may be required.

6.4

- Our focus for the remainder of this review is considering whether any of our recommendations under this review will pose new risks to consumers and what these risks may be. If new risks could be introduced, we will assess whether the existing consumer protection mechanisms would provide sufficient protection or whether new measures may be required. We welcome comments on these issues.

In addition to potential issues of data privacy, consumers could be exposed to new and significant safety and quality of supply risks if remote access to meter functions such as supply disconnect/reconnect or emergency load shedding is not properly controlled.

6.5.1

Third party service providers and the SMPs, if such a role is introduced, are not a part of the existing regulatory framework for licensing or accreditation. The role of the SMP appears to be linked to that of the MP and therefore accreditation by AEMO may appear appropriate. Third party service providers on the other hand, would undertake roles in the market that could be relatively different from existing market participants.

If third party service providers are to have obligations under the NER, consideration is required as to whether they need to be defined as market participants and register with AEMO. Whether they need to be accredited by AEMO for access to smart meter functionality also requires further consideration. We welcome comments on these issues.

However, we acknowledge that SCER is considering the requirements for regulating third party service providers under the broader regulatory framework. Whether third party service providers should be registered market participants and be accredited will depend on the outcomes of SCER's decisions for the broader regulatory framework.

SA Power Networks supports third party energy service providers being appropriately accredited, and agree that this issue needs to be considered within the broader regulatory framework. For



example, a third party demand aggregator that has a significant amount of load under control, whether it be via meter functions or some another control path, has the potential to impact network stability and/or power quality.

6.5.2 Supporting discovery of smart metering standing data requires further assessment. There are mechanisms under the NER that provide for 'NMI discovery'.³⁴ These provisions could be expanded to provide for the discovery of smart metering standing data. However, clarifications would be required on who would be accessing smart metering standing data and under what circumstances.

SA Power Networks considers that an appropriate mechanism for service discovery will be fundamental to the operation of the market gateway, if the framework allows for any services to be optional. We have included further commentary on the functions of the market gateway in attachment 3.



Attachment 2 – ENA proposed classification of services

The following table summarises ENA's proposed categorisation of metering functions and services, based on the service definitions included in the SMI Minimum Functionality Specification.

Basic Services

7.1 Measurement and recording

7.2 Remote acquisition

Daily reads

- Energy (per element interval and accumulation, active and reactive, import / export)
- Event logs (to include all events logged by the meter in accordance with 7.10 below in the past 24 hours)

Special (on demand) reads

- Per SMI specification 7.2 performance and functionality requirements

Note: SMI 7.2.1 (d) – multi-utility meter reading via HAN is considered to be an Advanced Service and is excluded

7.6 Load management - controlled load contactor (Existing Load Control services)

The SMI Minimum Functionality Specification defines a rich set of control functions for the controlled load contactor; it will be beneficial to separate these so that the capabilities of today's time-based control and ripple control systems are captured as Basic Services, with new capabilities reflected in Advanced Services. Delivery of existing Basic Load Control Services is critical to maintaining system load within network capacity, as they operate to reduce peak demand.

7.7 Supply contactor operation

- Enable remote turn on/turn off of the customer premise by closing or opening the supply contactor

7.10 Quality of supply and other event recording

- To include logging in event log (retrieved as part of daily reads) all events in SMI Specification 7.10.1(h)
- Real time reporting of events other than those associated with meter loss of supply is excluded, but may be an Advanced Service

7.11 Meter loss of supply detection / supply restoration notification

- Event notification in real time to accredited parties subscribing to notifications through the market gateway, including both loss of supply ('last gasp') and supply restoration events, with delivery times and reliability according to the performance requirements in the SMI Specification

7.12 Remote meter service checking

- As defined in the SMI specification

Advanced Services

7.6 Load management - controlled load contactor (New Load Control Services)

- The SMI Minimum Functionality Specification defines a rich set of control functions for the controlled load contactor; it will be beneficial to separate these so that the capabilities of today's time-based control and ripple control systems are captured as Basic Services, with new capabilities reflected in Advanced Services. Delivery of existing Basic Load Control Services is critical to maintaining system load within network capacity, as they operate to reduce peak demand.



Advanced Services

7.8 Supply capacity control

7.9 HAN using open standard

- If a HAN is enabled at a metering installation, there shall be no restriction on the customer's right to pair any device of their choosing with the meter in the home. It is not desirable for the MC or retailer to exercise control over access to the HAN in order to prevent the customer from using any in-home device other than one provided by the MC or retailer, as this will stifle competition for demand-side services.

7.20 Meter communications: issuing messages and commands

7.21 Customer supply (safety) monitoring

The allocation of services to the categories above does not include the full range of smart meter functionality. The following functions defined in the SMI Minimum Functionality Specification do not map directly to services at the market level. They relate to metrology, basic meter functions and facilities required by the meter operator for the provision and maintenance of metering services, such as remote software updates, and in order to discharge their responsibilities in relation to data security etc.

These functions may be categorised as 'Basic functions', but are not included above as they are not visible at the market level.

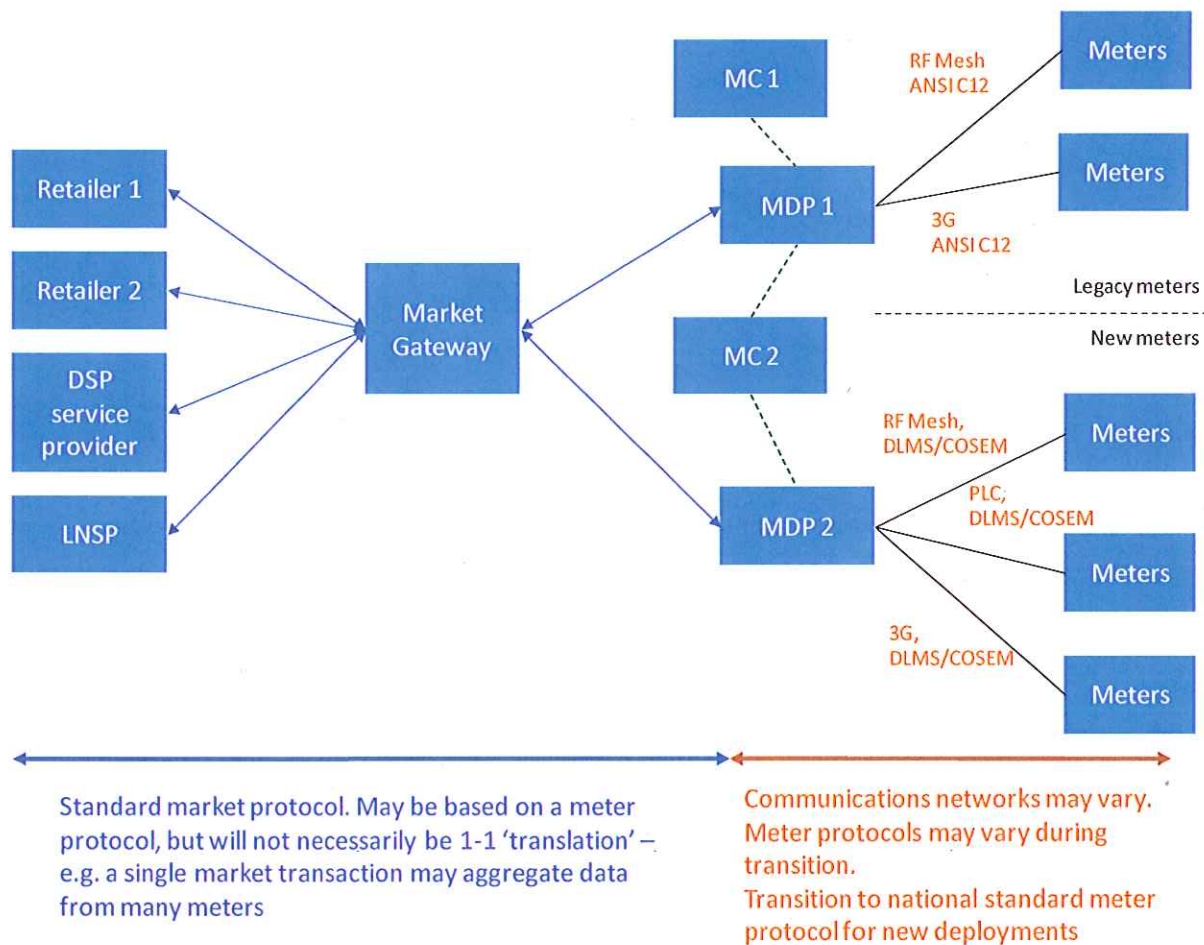
Other Functions

- 7.1 Measurement and recording
- 7.3 Local acquisition
- 7.4 Visible display on meter
- 7.5 Meter clock synchronisation
- 7.13 Meter settings reconfiguration
- 7.14 Software upgrades
- 7.15 Plug and play device commissioning
- 7.16 Communications and data security
- 7.17 Tamper detection.
- 7.18 Interoperability for meters/devices at application layer
- 7.19 Hardware component interoperability



Attachment 3 – common market gateway

A high-level view of the role of the common market gateway and associated market and meter protocols is summarised in the figure below and the text that follows.



The Market Gateway offers these Services:

- **Discover** services available for a NMI
- **Subscribe** to regular data feeds, e.g. daily interval data. A single transaction could aggregate data from many NMIs (c.f. B2B format)
- **Subscribe** to near-real time notifications (loss of supply etc) for a NMI or range of NMIs
- **Send** a real-time request to a NMI, e.g. ping, on-demand read or load contactor operation

The Market Gateway performs these Functions:

- **AAA** (Authorisation, access control and accounting)
- Maintain **directory** of metadata for each NMI (extended MSATS) including available services and mapping to MC / MDP
- **Dispatches** authorised real-time requests direct to correct MDP for processing.
- **Forwards** notifications generated by MDP to subscribed parties
- Potentially, **caches** periodic data (e.g. interval and other daily data) in a 'virtual meter' for each NMI; The MDP is responsible for polling its own meters (e.g. once per day) and updating the gateway; requests by accredited parties for periodic data are served out of the gateway. Alternatively, each MDP could maintain its own cache; the goal is efficient use of the telecommunications infrastructure by ensuring that the same data is not gathered multiple times from each meter.



The above is one high-level architecture; there will be many possible variants. In particular, the extent to which functions are implemented within the common gateway, or simply dispatched by the gateway to the MDPs' systems, will need to be determined through technical analysis that is beyond the scope of this review.

