

**21 May 2015**

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235  
Attention: Richard Owens – Senior Director

Dear Mr. Owens,

**Re: Expanding competition in metering and related services – consultation on draft determination and draft rule**

Embertec welcomes the opportunity to provide comments to the Australian Energy Market Commission (AEMC) consultation on the draft determination and draft rule for ‘expanding competition in metering and related services’.

Embertec is a leading developer and manufacturer of energy efficiency and energy productivity technology, with sales to Australia, Canada, and the United States. Embertec is proudly an Australian SME and is investing more than \$3M annually in research and development.

Embertec’s core business focus is to develop and supply new energy related products for households. Through the AEMC’s efforts and the development of the ‘Power of Choice’ reforms a supportive regulatory framework is being developed which will encourage Embertec to expand our product offerings to consumers as we become a more integrated ‘third party energy service provider’. Prior to these reforms there was very limited encouragement to develop or offer energy related services to consumers. It is our belief that these reforms will allow greater competition and importantly will lead to the empowerment of consumers to make better choices regarding how they use and purchase electricity.

We commend the work completed by the COAG energy council, AEMC, AEMO and all of their collective staffs that are bringing the ‘Power of Choice’ reforms to life. Although we have only recently participated in our first set of AEMC led workshops it was evident that the reform journey is difficult and the divergent views are many, however we are encouraged by the continuous refrain of “consumer first” being delivered by the AEMC.

In responding to this consultation on contestable metering we first want to state that we agree with the underlying intention to:

*“facilitate a market-led approach to the deployment of advanced meters, where consumers drive the uptake of technology through their choice of products and services. This competitive framework is designed to promote innovation and lead to investment in advanced meters that deliver the services valued by consumers at a price they are willing to pay” – AEMC*

This objective is sound and in general we support the reforms that are being put forward. However, the one area where we believe you have been overly optimistic is in regards to how engaged a typical consumer will be in this process and what value they will be able to place independently on various smart meter functions and services. In reality – especially in the early years of the new rule – few consumers will actually have any detailed understanding about the features and services available from advanced meters that could provide a direct benefit to them. The features and services provided to consumers will predominately be dictated by incumbent retailers (who get to appoint a preferred metering coordinator), in particular the large retailers who already have a large customer base. Retail competition will improve the consumer offering but the incumbent retailers will be in a position to exercise a significant “gatekeeper” function. Strategically as part of these reforms the AEMC should take the opportunity to provide additional protection to consumers to ensure access to third party energy services beyond what may align with the self-interests of retailers.

In our view, fundamental to these reforms is that core services be included as part of the advanced metering minimum functional services specification that are capable of providing direct benefit to the consumer. At present, the suite of minimum services that have been established is in its entirety directly beneficial for retailer businesses and to a lesser extent, distribution businesses. Benefits will flow to the consumer, but the benefits will be realised indirectly through efficiency gains made by the operations of their incumbent retailer/distributor combo in servicing customers.

The AEMC – in the spirit of the ‘Power of Choice’ reforms – should regulate for the consumer and include provisions in the minimum services specification that will ensure consumers will be able to communicate directly to the advanced meter and access their energy data in real time, irrespective of any retailer or metering coordinator. The opportunity and the ability to access personal energy data directly and independently is what will empower the consumer and allow them to construct their own narrative that is befitting of their household energy needs.

Embertec propose the following recommendations:

**Recommendation 1:** Include in the minimum metering services specification as a ‘Primary Service’ that all meters must include the ability to connect to a Home Area Network (HAN) – currently considered a value add service under the draft minimum services specification.

**Recommendation 2:** Ensure that the Shared Market Protocol (SMP) includes provisions that allow consumers to “bind” to their meter (at a small or no cost) using third party devices – eg., In home displays (IHD), and home energy management (HEM) systems.

**Recommendation 3:** Provide assurance to device manufactures and consumers that all advanced meters deployed in the NEM will include a common basic communication protocol. In this single instance (because it is about providing a regulated service for the consumer) we request the AEMC deviate from the “services” specification and establish a

minimum functional requirement for advanced meters to include Zigbee (consistent with the 2.9 million meters already deployed in the state of Victoria).

## Justification for our recommendations

In putting forward these recommendations we do so not intending to offer a pointed criticism of the omission or to the underpinning ideology of a market driven reform for contestable metering. In general, we hold the view that the approach taken by AEMC and AEMO and the development of the provisions included in the draft rule are reasonable but not without risk. Instead, we believe justification for our recommendations is broader than this specific rule change and grounded in the overarching objectives of the ‘Power of Choice’ as a whole. Namely to give consumers options in the way they use electricity by “provid[ing] more opportunities for consumers to make informed choices about the way they use electricity based on the benefits that end use services provide”<sup>1</sup>.

The pieces of how the ‘Power of Choice’ collection of reforms builds on one another was delivered most persuasively by Chairman John Pierce in a recent speech<sup>2</sup> at a forum hosted by the Energy Network Association (ENA). Key points that the Chairman communicates are about the importance of empowering the consumer through:

- Establishing effective price signals through network pricing reform
- Improving access to information about their energy consumption by allowing consumers to obtain data from either or both their retailer and distributor;
- Allowing authorised parties to request access to consumer data – in a minimum format; and
- Establishing the conditions (to access tools) for a competitive energy services market through metering reforms.

In describing the importance of the advanced meter, the Chairman says “it (the meter) is a tool that can help consumers monitor, manage and adjust their electricity consumption and, importantly, capture the value of doing so, if they so choose. Opening up metering competition will allow consumers to benefit from a wider range of energy services and demand side products. Tools (allow consumers) to respond to time-of-use pricing, off-peak charging of electric vehicles, faster retailer switching and more efficient notification of system faults to network operators”.

Underpinning all of these important benefits (and ones not yet even considered) is that for consumers, at the most fundamental level it will be access to their personal energy data that provides the foundation for their decision to take on new energy services and products.

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<sup>1</sup> AEMC website: <http://www.aemc.gov.au/Major-Pages/Power-of-choice>

<sup>2</sup> AEMC 2015 – Chairman J. Pierce speech ‘With or without you: the evolution of Australia’s energy market’ online: <http://www.aemc.gov.au/News-Center/What-s-New/Speech-Documents/Speech-By-Chairman-John-Pierce-at-Energy-Network-A.aspx>

We acknowledge that reforms are in place to allow individuals to gain guaranteed access to data through a distributor or retailer. We agree that it is an important step but accessing data (that at best will be aggregated at 15 or 30 minute intervals) offered through a third party will not support real time decision making at the consumer level.

The importance of real-time decision making would not be lost on the AEMC. As an example, arguably the most important reform since retail competition was first introduced will be the introduction of cost reflective network pricing. It is certain that the structure of retail tariffs will change markedly as cost reflective network pricing is introduced. No matter if it is a time-of-use tariff, a demand based tariff, a critical peak day tariff, or another tariff, it will be incumbent upon consumers to decide whether or not to adjust their usage in response to a price signal. For networks to gain the maximum benefit from the reform and for consumers to take full advantage of the price signal they need to know in the moment how much electricity they are using and weigh it up in making the decision to respond to the price signal.

Historic usage data provided from a distributor, retailer, or metering data provider might provide interesting insight and allow consumers to “shop” for a better retail offer but does little to actually empower a consumer to make decisions in real time. True consumer empowerment and confidence to make actionable responses will only be achieved through having access to real time data.

Another important message Embertec wish to convey to the AEMC is that, as this rule has been drafted there is the real likelihood that a very divergent assortment of meters with varying types of “value-add” functionality will be installed across the NEM. The AEMC is not averse to this outcome. However, the extent to which meters diverge from one another – especially in the early years of the new rule – will not be driven by consumer demand. The metering co-ordinator role is in the gift of the retailers, so divergence in meter capability will be driven by the retailers. The retailers will be positioning their offerings to give themselves the greatest competitive advantage. In an ideal world, the retailers will compete by offering the widest range of add-on services at competitive prices. In this scenario, customer churn away is prevented by actively attracting the customer to remain. However, retailers with a large existing customer base may find that their competitive position is equally well served by providing impediments to churn. The provision of low functionality meters would make the customers unattractive to third party energy service providers who have ideal offerings but rely on the existence of a higher meter function (or reasonable terms to access the higher functions). The risk from a consumer perspective is that access to advanced meter functions could be limited or non-existent. The risk to the competition model is that small, innovative retailers and third party energy service providers, who are likely to be the catalysts for change that will improve cost and/or outcomes for consumers will be strangled by high customer acquisition costs which include meter replacement.

There is a real risk that Retailers and Metering Coordinators could develop a metering specification with preferential contract terms supporting both their commercial needs. In doing so, there would be little incentive for them to focus efforts on delivering network

benefits or accommodating access (at a reasonable price) for 'secondary' or 'value add' advanced metering services to third party energy service companies.

One outcome that does not need to emerge and a risk that can absolutely be mitigated by the AEMC is to prevent an outcome where a household is limited in the opportunity to connect to the meter. Where a consumer wants to use a preferred third party energy monitoring devices such as IHDs, HEMs, smart thermostat, or other they should be afforded the security to know that the meter hanging on the wall, will allow them to connect. In the absence of establishing the requirement to include HAN connectivity and common communications protocol there is a risk that consumer options will be limited and ring fenced to certain types of third party devices unless they change their meter (with new functionality).

In a manner, it would be analogous to a consumer signing up with an Internet Service Provider (ISP) (electricity retailer), who will provide a router (the meter) as part of an attractive offering but you must use specific brand of computer because it utilizes a non-standardized Wi-Fi protocol that is used only by that brand of router. Now if a consumer wants to buy new computer they will have to find one that either connects with their existing router (limiting their access to all products) or potentially move to a new ISP provider that provides a new modem/router that will connect with the new computer they desire. To the benefit of all computer owners that scenario is not an issue; every computer is able to connect to every router through a common Wi-Fi protocol. So should it be the same for advanced meters.

There is plenty of opportunity for different types of communications to be enabled on an advanced meter in addition to Zigbee including Wi-Fi, Z-wave, and Blue Tooth but it makes sense for both the consumer and product developers to have certainty that every single advanced meter will allow for connectivity via Zigbee. The marginal cost to include Zigbee chips into advanced meters is in the range of \$2 - \$4, essentially adding nothing to the overall nothing to the overall cost of the meter for the consumer. Certainly there will be households that never connect to the meter but there should never be an instance where a household who has an advanced meter installed can't connect because the service does not exist.

We understand the AEMC's reluctance to increase base costs for all customers, or to stifle innovation. The draft determination suggests that potentially current clamp style devices can provide real time data. However, these are much more expensive to procure and install than the cost of the Zigbee chip. Additionally, for consumers to use mobile phone applications or web-portals to monitor data in real-time requires that the devices somehow connect to the meter (either directly or indirectly through a home energy gateway device) In this case, we believe the large potential advantage, and the small cost, make the provision of Zigbee functionality justified. Including a requirement to the minimum services specification for Zigbee communication is a sensible safeguard which will not stifle innovation; innovation will push on.

Adopting our recommendations would be to the benefit of consumers across the NEM and establish the AEMC with having the foresight as part of this rule change to deliver a level of assurance to households that irrespective of what meter is hanging on the wall functionality is available for them to access their energy data. Taking on our recommendations would guarantee consumers have an opportunity from the start of the new rule and extending into the years that follow (and as consumer preferences evolve) to directly communicate with their meter. This would provide another tool for consumers who do utilise the functionality to effectively manage retailers as opposed to being managed by their retailers.

Additionally, adopting our recommendations will provide confidence for all third party manufacturers of enabling technologies that, for all advanced meters installed throughout the NEM jurisdiction there is a common communication protocol that energy monitoring products can bind with.

The draft decision explicitly sets out that the AEMC wants a market led approach. As we have communicated already that is reasonable approach and Embertec is cognisant of the fact that it would be highly unlikely that advanced meters are installed without some sort of service that allows households to connect via their HAN. Embertec also believe that ultimately consumers will be in the best position to decide what they want. However it is incumbent upon the AEMC to establish specific functionality to support them along their personal 'Power of Choice' journey. The 'Power of Choice' is focused on delivering better outcomes for consumers yet none of the primary services establish in the minimum services specification for advanced meters provide an overtly identifiable direct benefit to consumers.

We appreciate and applaud the reluctance of the AEMC to stifle innovation. The greatest potential source of innovation is new, small, third party players. Encouraging this innovation requires a sufficient commonality among households in the first instance for a market to be found for new technology which can evolve as driven by customer demand, relatively free of the (however benign) hand of Big Brother in form of the large incumbents.

This is an opportunity for the AEMC to show that they have the best interest of consumers at front of mind and provide confidence to third party technology manufacturers and energy service providers that product offerings will be supported by all types of advanced meters.

To quote the Chairman once more "Giving consumers the tools, information and clear price signals, means consumer choice is what will drive market development for energy and energy related services". Exactly! Embertec now call on the Commissioners to make good and give consumers an additional tool – make it a fundamental right of consumers to access their meter data using a standardized communications protocol and to lend further support through establishing appropriate provisions in a shared market protocol.

Many thanks for your consideration and please keep delivering quality reform for the benefit of the consumer. Embertec is prepared to provide appropriate resources and work closely with the AEMC as required. We look forward to continuing the dialog and participating in future consultations.



Embertec Pty. Ltd, **ABN:** 61 110 367 809  
182 Fullarton Road, Dulwich 5065, Australia  
**Tel:** +61 8 8334 3300 **web:** [www.embertec.com.au](http://www.embertec.com.au)

Should you have any questions regarding this submission, please contact Kevin McNamara, Manager Intellectual Property and Regulatory at [kevinmc@embertec.com](mailto:kevinmc@embertec.com).

We look forward to continued discussion,

Yours sincerely,

Kevin McNamara

Manager, IP and Regulatory  
Embertec Pty Ltd