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Submission by: https://www.aemc.gov.au/contact-us/lodge-submission

Response to:

AEMC draft determination and draft rule ERC0379
Accelerating Smart Meter Deployment

Thank you for the opportunity to comment on the AEMC draft determination and draft rule for "Accelerating Smart Meter Deployment".

This response is a joint response on behalf of both Rheem Australia Pty Ltd (RAPL) and Combined Energy Technologies Pty Ltd (CET), as we have a complementary interest in the AEMC's draft rule determination.

Our views, concerns and recommendations as outlined below, draw from our extensive experience across our fleet of thousands of mixed CER residential and commercial sites we have deployed across the NEM and WEM, whereby orchestration of these mixed CER residential sites is to the benefit of consumers, to enable DNSP dynamic connections, to enhance grid security of supply, and to support and accelerate the hosting of renewables on the grid.

As the largest Australian manufacturer of water heaters, Rheem markets a wide range of solar, heat pump, high efficiency gas and electric water heater models to the domestic water heating market. Our brands include Rheem, Solahart, Vulcan and Aquamax. Additionally, we are now the number three supplier of photo voltaic (PV) systems in the country via our Solahart channel. Over the last six years we have also commenced the manufacturing and installation of smart electric water heaters, orchestrated locally with other CER via CET HEMs, and in aggregation controlled remotely by our technology partner CET, via their cloud platform for grid services. Today Rheem has products in over 4 million Australian homes.

Combined Energy Technologies Pty Ltd (CET) is an Australian technology company specialising in energy management technology for residential, commercial, and micro grid systems. CET systems utilise a local Energy Management Gateway to provide secure communications and local orchestration of a wide range of CER devices and CER manufacturers. Local orchestration of CER devices is achieved through a suite of CET Energy Management modules that provide cost effective class 1 power metering, communication, and control. CET has extensive experience in the integration and orchestration of systems with multiple CER devices including the integration of solar PV, batteries, water heating, electric vehicle chargers, pool pumps and A/C for the benefit of the residential consumer, retailer, DNSP, and the grid.

Together, Rheem and CET have been actively participating in the emerging orchestrated CER market for nearly 10 years with thousands of cloud connected, mixed, orchestrated CER sites (Solar PV, batteries, smart water heaters, HVAC, pool pumps, EV chargers, and other CER) across the NEM and the WEM. Over

the past 10 years we have identified and resolved many issues (at live field sites) around how mixed, smart CER sites can be orchestrated to achieve the best financial outcomes for consumers, whilst providing a foundation for grid support services and hence grid security of supply. Our observations and concerns in this response to the draft rule determination are supported by empirical data from an existing fleet of thousands of NEM and WEM consumer sites of mixed CER. The data from these sites support our technical and commercial conclusions which are in alignment with the principles of the National Electricity Objective (NEO).

Accelerating smart meter rollout – prerequisites overview

Any accelerated rollout of smart meters must ensure the metering platform is "fit for purpose" to participate, where appropriate, in the future monitoring and control of CER products and services "behind the meter" by ensuring the platform can support expected AEMC future rule changes such as enabling local access to meter data, including real-time power quality data and other metering platform ancillary capabilities (unrelated to settlement and billing) on a contestable basis.

The metering platform must not enable monopoly CER services by any stakeholder (including the Metering provider), but rather act as an accessible, open platform enabler of CER to ensure a level marketplace for competition and innovation in CER products and services to evolve. The following principles must be followed in any smart meter accelerated rollout and ideally as soon as possible for all smart meters deployed. Specifically, this must include a metering platform that delivers:

- Technical neutrality (standards-based open access)
- Least cost support of evolving CER products and services
- Commercial neutrality (enable market competition for CER products and services), and
- Enables market and consumer benefits in accordance with the NEO.

There are two main areas where the rules are deficient and require changes as a prerequisite to any accelerated metering rollout whilst supporting the above principles:

1) Physical access to smart meter communications ports for local access to meter data, including real-time power data for supporting the delivery of contestable behind-the-meter CER services
2) The smart meter platform is restricted to providing "settlement and billing" as defined by the NER.

We elaborate further on these two points below.

1) Physical access to smart meter communications ports.

To ensure the best outcomes for competition in the delivery of CER products and services and the success of supportive future market rule changes, the Minimum Metering Specification must be changed PRIOR to any accelerated rollout to ensure future local access to metering data and ancillary control functionality is not impeded by physical access restrictions present in current smart meter platforms.

Currently, smart meters support standardised local communications ports and standards-based communications protocols for:

- Modbus for local access to meter data
- real-time power quality data,
- access for command and control of ancillary functionality such as relay control of attached CER (e.g. controlled load),

- configuration/provision of the solar emergency backstop and other capabilities.

However, physical access to the communications ports is under a secured physical cover, typically with an MP/MC/MDP physical seal, and access to the communications ports requires (e.g. in NSW) a level 2 ASP at a cost of up to $500 per visit.

Clearly, the current metering platform access arrangements for local data and other ancillary services cannot deliver commercially and technically neutral local physical access to meter data to enable a future contestable market for CER products and services.

By not addressing the physical access issues described above in conjunction with the accelerated metering rule change proposal, the current market distortion[1] This will result in continued consumer lock-in, competition lockout, and the further building of monopolies for CER products and services behind the meter.

The off-market services provided by non-FRMPs require access to real-time connection point meter data. Currently, this can only be provided by "parallel" connection point metering, which is significantly expensive for consumers and in competition with the metering access enjoyed by MCs.

Local real-time power quality data is required for the delivery of CER services, including:

- DNSP dynamic connections,
- DNSP demand response services (e.g. Minimum and peak demand abatement),
- HEMS services,
- AEMO services such as contingency FCAS, and
- Future on-market CER services envisaged by AEMO such as those explored under project EDGE.

Note that at least the first three services above are currently provided by off-market service providers.

Importantly, emergent DNSP CSIP-AUS based dynamic connections for import/export are increasingly being mandated under DNSP connection agreements[2]For these consumer sites/homes to maintain compliance, accurate class 1 metering must be installed. DNSPs require compliance verification reporting (1 minute frequency updates) of connection point power quality data, and further, control and command of the CER require local real-time power quality data to ensure site compliance.

The costs for provision and installations of secondary parallel class 1 connection point metering can be up to $800 for the supply and installation for a single phase – with higher pricing for 3-phase homes. These costs are borne by consumers, affecting the uptake and compliance with dynamic connections. These additional metering costs incurred for dynamic connection compliance could be mostly eliminated by providing real-time power quality data through local access to the site smart meter, which requires rule changes and no-cost access to smart meter communications ports.

Certainly, this access is a desired outcome of a proposed future "real-time data access" rule change. The smart meter platform must be fit for purpose and enable physical access (as detailed above) to

[1] The MC's are protected "inadvertently" by the NER that enables them to create products and services within, and connected to the metering platform by using their privileged access to the metering platform excluding viable competition.

[2] For example, SA Power Networks solar exports program and Energy QLD's new requirements for EV Chargers > 15 Amps – whereby site connection point dynamic CER export/import compliance limits are delivered in real time via CSIP-AUS.

communications ports without the need for third-party involvement (e.g., a level 2 ASP in NSW) and associated costs.

Recommendation for physical access changes to smart meter communication ports:

As an urgent prerequisite to any accelerated smart meter rollout to support future rule changes that will enable local access to meter data (including real-time power quality data) the minimum metering specification must require a "least cost" approach to physically expose all communications ports to ensure technically and commercially neutral local access to the metering platform. Security concerns may be addressed with access via passwords, certificates or being afforded through similar certification processes to that used by DNSPs for dynamic connections. This could be resolved by extending the scope of certified persons that can remove and apply seals to include registered off market service providers engaged by the site owner or similar.

Further, as multiple certified service providers may require access to meter data locally, there may be a need to support a certification regime of multi-access communications devices that can be attached to the smart meter to afford simultaneous access by one or more certified service providers. This is not a complex undertaking.

2) The smart meter platform is restricted to providing "settlement and billing" as defined by the NER.

The AEMC metering review determined that consumers own all data generated from their power usage. Using this data or the metering platform's capabilities to control or monitor consumer CER (consumer energy resources) requires explicit consumer consent. For the future of CER to benefit both consumers and the grid, innovation and competition in providing CER products and services must be encouraged. Currently, there is an issue where metering platforms, protected by the National Electricity Rules (NER) have a monopoly. This monopoly stifles competition and innovation, causing significant market distortion in delivering CER products and services.

We wish to draw the commission's attention to the following practices (enabled by the NER) that affect market innovation and competition.

The current draft rule determination will only serve to further consolidate a monopoly market for Metering Coordinators (MCs). Unregulated MC products and services integrated into the metering platform will be inaccessible to competition and consumer choice. This will perpetuate an anti-competitive environment by favouring a single supplier of CER products and services, as the current NER allows. The NER does not address MCs' privileged access to the metering platform, where unregulated products and services exist. This extends to regulated smart meter backhaul for connecting to MC cloud-based CER control platforms, distorting market competition as other service providers cannot access the backhaul or the metering platform. These issues must be addressed in any accelerated smart meter rollout rule change to ensure fair and neutral competition for contestable services.

Specifically, we have concerns that further MC monopolies will continue to be enabled by the draft rule determination as:

- The MC can still restrict access to local meter data including power quality data, the provision of which would mitigate the need for current parallel connection point metering required for the delivery of HEMs and/or DNSP DR and/or DNSP DOE compliance services.

- The MC can deploy competing services using the sunk costs of the metering platform and being shielded by the NER at the expense of the consumer and market competition for the provision of CER products and services.
- As the MC has privileged access to the metering platform, they can develop/embed products and services within the platform, thus creating a market distortion, impacting the ability for competitive products and services to compete against them in an open market.
- This creates further market distortion and preferences for MCs in the overall behind-the-meter CER products and services space, creating an uneven playing field that is and will be dominated by MCs, thus "locking in" the consumer, eliminating competition, and removing consumer choice.
- As is already evidenced in retailer supply contracts, we have seen the provision of energy to a consumer tied to "handing over" rights to the retailer/MCs for discretionary control in the switching of any controlled load circuit. This again precludes an open, contestable market for the provision of CER services by multiple providers as the MC is protected by the NER in their monopoly position.

Recommendation to restrict the smart meter platform to the provision of "settlement and billing" as defined by the NER.

As a prerequisite to any accelerated smart meter rollout, the NER should be changed to clearly restrict the metering platform to its original purpose, that being for the provision of data required for the purposes of "settlement and billing" as defined by the NER. All other ancillary software, CER control services and the like should be left to market innovation and competition. This will significantly reduce the costs and complexity of the smart meter, with cost reductions flowing to all consumers.

The smart meter role can then be extended by future rule changes to be a neutral enabler to all service providers by providing local access to meter data, including real-time power data, with the consumer being the responsible party for that consent. This approach is consistent with other industries and technology architectures. As the smart meter life cycle is much longer than the technology life cycles of CER control products and software, delivering products and services to control CER external to the smart meter makes sense, as customers will have different CER requirements and adoption rates. This approach also supports innovation and market competition whilst precluding monopoly lock-in of consumers and competition lock-out.

Summary

If the current form of this Draft rule determination is enacted, it will severely compromise innovation and the open market competition for off-market CER products and services such as HEMS, DNSP DR, and DNSP Dynamic Connections. The Draft rule determination only serves the MC/Retailer and is likely to destroy the off-market Energy Market Service Provider ecosystem. This will reduce competition and consumer choice, increasing prices for CER products and services.

We can enable an innovative and competitive marketplace to provide CER products and services by implementing the above recommendations. The smart meter plays a key role in providing data, including local access to real-time power quality data, which will drive down costs associated with delivering HEMS, DNSP DR, DNSP Dynamic connections, and other grid services. Furthermore, it will enable consumer choice in the monetization journey of their CER assets.

As this submission has been prepared using the expertise of several Rheem and CET personnel, I would ask that any enquiries related to our submission be directed in the first instance to the contact below. We will then coordinate follow-up responses to your enquiries or further meetings, if required, with the appropriate personnel within our organisations.

Yours Sincerely,

Scott Ostini
General Manager Energy Solutions and Transformation
Rheem Australia Pty Ltd