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Mr Richard Owens
Senior Director
Australian Energy Market Commission



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Dear Mr Owens

Contestability of energy services rule change proposals

SA Power Networks, CitiPower and Powercor welcome the opportunity to comment on the Australian Energy Market Commission's (AEMC) consultation paper. Our submission responds to rule changes proposed by policy makers through the Council of Australian Governments (COAG) Energy Council and by retailers and generators through the Australian Energy Council (AEC).

The proposals seek to prohibit electricity distributors (DNSPs) investing and / or co-investing in Distributed Energy Resources, DER (e.g. battery storage, local generators, smart devices), fearing this could undermine competition. However, there may be cases where investments by DNSPs are most efficient options and in consumers' long term interests.

We do not support the proposals and caution against misconceiving the issues presented by this latest wave of technologies, in DER. DER do not present sufficiently unique issues to require an overhaul of how the regulatory framework guides decisions on which services to economically regulate. The proposals ignore existing features of the regulatory framework and would undermine it. Further, the proposals make no attempt to set out the market failures that are of such significance as to warrant significant framework change. As our submission discusses:

- there is no unique feature or contestability issue presented by new technologies that is not already present in many other inputs used to deliver network services, and no reason to treat these technologies differently;
- the existing framework already ensures only monopoly services will be economically regulated;
- to promote efficient service delivery, regulation shouldn't pre-emptively 'pick winners'. DNSPs must maintain discretion to respond to changing conditions and choose which inputs are most efficient in providing and operating the electricity network—there are a myriad of input technologies, ways of combining these, and ways of involving third parties in these decisions;
- the existing framework is non-discriminatory and incentivises efficient input selection, ensuring there are no barriers to DNSPs considering inputs involving third parties. The framework also ensures there are no barriers to third parties (operating in unregulated markets) from partnering with DNSPs to share new technologies to optimise across potential uses—as inputs to network services and for selling energy into wholesale markets;
- allowing service reclassifications during a regulatory control period would significantly undermine the regulatory compact and alter DNSPs' risk profile; and
- a truncated RIT-D will significantly increase administrative cost without generating customer benefits.

Our submission comments on other specific aspects of the rule change proposals and the questions raised in the AEMC's consultation paper. We would be happy to discuss further any aspect of our submission.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Richard Sibly".

Richard Sibly
A/Head of Regulation
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A handwritten signature in blue ink, appearing to read "Brent Cleeve".

Brent Cleeve
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1. Introduction

These rule change proposals arise alongside emerging new electricity industry technologies, namely Distributed Energy Resources (DER).¹ DER has some uniqueness challenging energy market design, but these issues are not directly related to these proposals. Electricity supply is changing from a 'one-way' to a 'two-way' market. There are increasing opportunities for local electricity generation and storage, and for consumers to engage with energy markets by deciding the timing of when devices consume, store or export energy. These issues need considering. That is, how to maintain technical conditions (system security) with large two-way flows, and how to configure price signals and controls so DER use can be guided by dynamic wholesale market and local network conditions. Energy networks have been considering these issues in the Energy Network Association's Network Transformation Road-Map², and this is also the focus of the AEMC's Distribution Market Model work.

However, we disagree that the arrival of this latest wave of technologies presents unique challenges requiring an overhaul of how the regulatory framework guides decisions on which services to subject to economic regulation. The proposals misunderstand key features of the regulatory framework which are designed to withstand technology changes, and would significantly undermine the conscious intent in the framework's design.

The rule change proposals appear driven by a lack of trust and / or understanding of regulatory processes. That is, how existing incentives and requirements direct DNSPs to efficient and non-discriminatory choices on inputs, and by doing so ensure that inputs that could involve third parties are considered. Regulatory processes in any industry might appear unintuitive. However, a lack of understanding and / or trust represent insufficient reasons to unwind existing and intentional features of the regulatory framework. It might be worth the AEMC and the AER considering how and if greater understanding and confidence in regulatory processes could be achieved.

Any significant change to a regulatory framework needs to pass a high evidentiary threshold. In particular, there needs to be an appropriate exploration of the significance of the market failures that would justify any regulatory change. The rule change proposals have made no attempt to outline any existing market failures.

2. Promoting efficient outcomes

Do new technologies present unique issues for regulation

The rule change proposals reflect a view that new technologies present unique issues for regulation, principally, in deciding if regulated DNSPs should be allowed to invest in these technologies. This relates to technologies generally termed DER, including battery storage, generators and other devices capable of responding to signals on when to import, export, or cease using energy.³ Actually, some of these technologies are not new, with backup local generators being effectively accommodated under the existing regulatory framework and used by DNSPs (directly or via third parties) for many years.

Some challenges presented by DER require examination outside of this rule change. This includes how to appropriately configure price signals and controls to promote efficient investment in and use of DER, having regard to the efficient and safe provision of electricity networks. We disagree, however, with the rule proponents that new DER technologies uniquely require a fundamental re-write of how the regulatory framework guides decisions on which activities should be economically regulated:

- A DER device, whether owned and installed by a DNSP or another party, and used by the DNSP to support the network during peak times, is no different to any other input technology within the

¹ This includes a range of devices that can generate and store energy locally and other 'smart' devices capable of responding in automated ways to signals on when to consume / store or export energy.

² Accessible on the ENA website: [<http://www.energynetworks.com.au>].

³ By being able to respond automatically or upon direction, these devices are generally considered to be, 'smart' devices.

service of providing a safe and efficient electricity network.⁴ Network services or distribution services (for DNSPs), comprise of many individual activities and devices. As discussed later in this submission, the regulatory framework avoids prescribing how these inputs are combined, instead providing incentives and requirements for DNSP decisions to be efficient and non-discriminatory.

- A DER device could be shared across multiple parties (i.e. a 'shared asset'). It can be used for various purposes, including to support networks, respond to wholesale market conditions, or for customers' individual needs. This is not unique—there are numerous examples of assets shared across different uses. For example, DNSPs' poles and ducts have been used by telecommunications businesses, and DNSPs' motor vehicles have been used to deliver both regulated and unregulated services. As further discussed later in this submission, in these cases:
 - cost allocation and shared asset requirements ensure that only the costs of regulated activities are included in regulated allowances;
 - the 'form of regulation' factors guided by the NEO, determine whether various activities including those using DER actually comprise a service to customers, and if so, whether they should be economically regulated or not; and
 - the ring-fencing guideline prohibits DNSPs delivering DER activities that are unrelated to supporting network / distribution services.

Rather, DER's most unique characteristic gives reason for not pre-emptively disallowing DNSPs investing in DER. That is, DER (located in front of, or behind the meter) can affect the efficiency and safety of the electricity network.⁵ If unchecked, large synchronised DER loads exporting electricity into the network can affect technical system parameters, and alternatively well-managed and timed use of DER can help avoid network constraints. This differs to other activities that in earlier economic reforms were split off from those that network businesses could undertake. Splitting retail services provided to customers, and electricity generation into wholesale markets (to be purchased by retailers or market customers) did not adversely affect the efficiency and safety of delivering electricity networks. The same is true of services opened to provision by other parties, such as above-standard connections.

If customers and their agents faced efficient price signals (with appropriate controls)⁶, DER use could be guided by wholesale and network conditions. While efficient wholesale market price signals exist, there are significant constraints to signalling dynamic local network conditions. Without such signals, optimisation between wholesale and network conditions could be something that distributors, retailers, energy services firms or customers directly, might seek to manage collaboratively. This includes through commercial agreements of various forms⁷, which could cover DER use for regulated and unregulated purposes, any required controls, and asset investment (including any co-funding).⁸ Requiring DNSPs to only ever fully procure DER capacity (as the rule proponents suggest), constrains

⁴ DER could be used to: avoid network constraints and outages at critical times or avoid / defer the need for expensive augmentation or replacement of a network's capacity; help balance voltage and other technical issues experienced on networks; and in some areas, particularly at the end of remote rural parts of the network, DER could be an efficient alternative to replacing ageing poles and wires.

⁵ We consider that DER located behind or in-front of the meter presents the same issues for promoting the NEO. There is no objective reason to treat them differently in written regulation. It might be that in deciding whether to invest in-house in DER or to procure from a third-party, that a DNSP finds that the relative costs and benefits vary depending on whether DER is in-front or behind the meter. However, regulation should not seek to pick winners in this regard.

⁶ In the wholesale market, in addition to there being a spot market where prices are determined, there are controls built in to allow the market system to respond to critical events.

⁷ Over time, it might be possible to design sophisticated and automated market based mechanisms for optimisation, as noted in the AEMC's Distribution Market Model paper, and in the ENA's Network Transformation Roadmap. It might be that these inter-business commercial agreements are transitory measures before more sophisticated market systems become possible.

⁸ The possibility of such agreements also challenges the traditional concepts of ownership and control as being matters that only involve sole parties. There is a common misconception that if regulated DNSPs are allowed to invest in a device then this equals to sole ownership and control.

the extent to which DNSPs can directly oversee DER's technical performance (e.g. maintaining the device). As discussed later, it might be that the need to have more direct involvement to provide assurance on how DER will perform could lessen over time as technologies and standards evolve and third parties gain additional expertise.

Determining services to regulate

The rule proponents seek to prescribe all DER related activities as being services, and being services that DNSPs cannot invest in by owning / installing the devices. This fails to recognise that the regulatory framework distinguishes which activities comprise services and service inputs, and already guides decisions on which services to economically regulate:

- The regulatory framework reflected in the National Electricity Law (NEL) and the National Electricity Rules (NER) avoids pre-emptive prescriptions and thereby accommodates market and technology evolutions. The NEO reflects a neutral goal of promoting efficiency in the long term interests of consumers, rather than referring to competition as the rule proponents seek to prescribe—in recognition that competition is not always feasible and may not lead to the best outcomes for customers (hence the need for regulation). This does not mean that the NEL fails to recognise the role of competition. The form of regulation factors in the NEL guide examinations of market conditions over time.⁹ This is to determine if a service requires economic regulation by having natural monopoly characteristics, or not by potentially being delivered by multiple competing parties. Therefore, only monopoly services will be economically regulated, and to date, the service of providing an electricity network has fallen into this category.
- Importantly, the NEO directs considerations on market conditions (i.e. the form of regulation factors) to be undertaken only for activities termed, 'electricity services'¹⁰, being activities delivered to electricity customers.¹¹ Services include the acts of: generating electricity into the wholesale market; selling / retailing electricity; and providing an electricity network. As the regulatory framework intends, considerations on whether services have natural monopoly characteristics, should be made and kept at this level. This recognises that the act of providing a network service, or a distribution service via a distribution system if delivered by a DNSP, is a service comprising of many integrated activities and technologies, the composition and combination of which can change over time.
- This framework already negates concerns that appear to be shared by the rule proponents. Regulated monopolies will not be able to apply for regulated funds to use DER to sell into wholesale markets, or to sell these technologies to customers for purposes other than network support—thereby affecting competition in these markets. Using the NEL and NER definitions of services and customers, these activities would be deemed to be services to customers, but not the service of providing an electricity distribution network. The AER's ring-fencing guideline determines that these are not services to be provided by a DNSP but rather by another party.
- The NER allow further considerations on how to treat network or distribution services. The service classification rules guide decisions on what to subject to direct price oversight, negotiation and arbitration, or to not regulate at all. Some activities have been classified via these rules as services, but which might otherwise be inputs to network services, including: public lighting, metering and connections. However, as noted by the AEMC in its consultation paper, all these activities had the unique characteristic of being activities delivered to retail customers.

⁹ These are set out in section 2F of the NEL and cover factors relevant to considering if competition is possible including: barriers to entry, market power, presence of substitutes and information asymmetries.

¹⁰ Part 1 of the NEL defines these as: "services that are necessary or incidental to the supply of electricity to consumers of electricity, including— (a) the generation of electricity; (b) electricity network services; (c) the sale of electricity".

¹¹ Customers include: a 'customer' as set out in the NER, being a person such as, a retailer or individual that purchases electricity in the wholesale market; or, 'retailer customer' as set out in the NEL, being customers who purchase electricity from retailers.

Efficiently selecting inputs to network services

The AEMC correctly observes current confusion among stakeholders on the treatment of DER. Further, the proposed rule changes are unclear on which DER activities they seek to prevent DNSPs investing in (e.g. selling into wholesale markets, selling devices to customers for sales, or network support). If they seek to prevent DNSPs investing in DER as an input and part of an efficient and prudent approach to support the provision of network services, then this conflicts with the fundamental design of the regulatory framework:

- These activities would be characterised as inputs to network services rather than services delivered to customers, consistent with the summary in the AEMC’s consultation paper. They are not services that can be classified.
- There is no principle for treating new technologies differently to other inputs. While over time new technologies have emerged that can be delivered by competing parties, the situation is unchanged from traditional network inputs apparent when the framework was first drafted. Many individual inputs to network services have always had contestable characteristics. For example, for input activities such as installing a new sub-station, tree pruning or corporate services, DNSPs decide whether to invest in-house or procure from other parties. In fact, some DER technologies such as backup generators are not new. There are many examples over several years, of where DNSPs have either procured generator capacity (as an input to network services) from third parties or invested in-house as most efficient in the circumstances.¹² This is not unique to electricity with similar examples found in every other regulated industry. It is only the consolidated provision, maintenance, operation, ownership, and responsibility for performance of a network or distribution system that comprise a monopoly (and regulated) service that requires regulation, not the inputs to those services.
- Limiting DNSP discretion in choosing inputs would significantly undermine the basis of incentive regulation. The framework directly avoids prescribing how DNSPs carry out the micro-level activities that comprise inputs to network services. Instead, DNSPs decide which activities are best undertaken in-house or procured from other parties, and which are required over time as demand and market conditions change. To promote the NEO, the framework instead provides DNSPs with incentives and requires DNSPs to demonstrate prudence and non-discrimination in their decisions, including:
 - requirements to not discriminate against unrelated parties, via the ring-fencing guideline;
 - ex-ante regulatory allowances (for five years), with a portion of the difference between allowances and actual expenditures retainable for a period of time through the Capital Efficiency Sharing Scheme and the Efficiency Benefit Sharing Scheme. If lower cost ways of configuring inputs emerge, including by procurement, DNSPs can obtain a financial benefit;
 - AER and stakeholder scrutiny of the basis of any regulatory costs proposed via the regulatory determination process, including how alternatives were considered, whether competitive tendering was undertaken, how agreements with related parties were entered into, and how costs benchmark against other DNSPs. During the period, if DNSPs spend above their capital allowances, these spends can subsequently be assessed and rejected by the AER if inefficient;
 - stakeholder scrutiny on DNSPs’ major (over \$5 million) planned network augmentations, including how alternatives were considered, via the Regulatory Investment Test for Distribution (RIT-D). A separate rule change is considering expanding this to network replacements; and

¹² For example, SA Power Networks has both paid to procure generation capacity from third parties for network needs in Bordertown and Cowell, and invested directly in owning generators to back up larger regions like Kangaroo Island.

- additional incentives are being designed to augment the opportunities for DNSPs to pursue inputs that are alternatives to augmenting the capacity of networks or replacing assets with like-for-like, via the AER's demand management incentive scheme and allowance.¹³
- By incentivising efficiency rather than prescribing input choices, the regulatory framework avoids attempting to 'pick winners', a guiding principle of regulation and public policy. Inputs can be configured in any number of ways and there is no standard evidence on which will be most efficient. Picking winners risks passing onto customers the costs of what might be inefficient outsourcing. For example:
 - In some cases it might be efficient for a DNSP to install and fully own DER as an input to network services.¹⁴ Currently, there are risks from fully procuring (rather than owning or co-owning and having some control) DER such as the risk of service non-performance or other corporate stability issues. DNSPs bear the risk of unreliability through the Service Target Performance Incentive Scheme (STPIS). While contracts with DER providers could mitigate risks, not all providers may be willing or able to take on this risk.¹⁵ The AER noted this point in its demand management consultation paper, noting that markets for third parties to self-insure against DER non-performance might be immature or not exist, or the costs of self-insuring could outweigh the benefits of the DER device these parties offer to DNSPs.¹⁶ Further, the transaction costs of designing and monitoring detailed contracts with many small individual providers could be significant, ultimately being borne by customers.¹⁷
 - In some other cases, it might be efficient for a DNSP to contract with an external party to use their DER capacity for network support. There might also be strong reasons to co-fund the cost of the DER device with another party, with the other (non DNSP) party using the device to deliver market services to customers (e.g. selling into wholesale markets). The possibility of co-funding arrangements are also consistent with what the AEMC envisaged in other reforms such as those on advanced metering.¹⁸ Over time this could be further promoted by:
 - > aggregators or retailers with sufficient mass and concentration of DER loads (in areas where network constraints could arise) emerging; and
 - > parties able to provide network support in some, particularly remote, regions emerging.

The AEMC asks if there are effective incentives and requirements to promote efficient DNSP decision making. As outlined, we believe there are. There is however a need for greater regulatory certainty on DER's treatment. It is unclear if the AEMC's view (which we support) on the services versus inputs distinction is held by the AER. We request the AEMC to comment on the AER's apparent interpretation of DER being a service rather than an input (discussed later in this submission).

¹³ AER, *Demand management incentive scheme and innovation allowance mechanism – Consultation paper*, January 2017.

¹⁴ It might also be that a DNSP owned DER device could be used entirely for network support, including devices that could be made mobile and used in different parts of the network as required.

¹⁵ As an example, CitiPower and Powercor have for several large projects, including network constraints facing Truganina, Geelong East and Melton/Bacchus Marsh, consulted with third parties from a registry for possible solutions. However, in all cases, these parties were either unable to provide sufficient support to address the constraint, their business models did not fit the requirements of the solutions, or they did not present the highest net economic benefit compared to the proposed network option. STPIS risks are relevant as the reliability of non-network solutions can typically be lower than network alternatives (e.g. the risk of an embedded generator failing when called upon is greater than the risk of a transformer failing).

¹⁶ AER, *Consultation paper – demand management incentive scheme and innovation allowance mechanism*, January 2017. P.29.

¹⁷ The significance of these so-called, 'transaction costs' should not be discounted, with studies in other industries showing these to be material components of business costs. For example, see Furubotn & Richter, *Institutions and economic theory – Contribution of the new institutional economics*, 2000, p.51.

¹⁸ The AEMC's final determination on the metering competition rule changes specifically intended to allow regulated DNSPs to have the option of recovering some regulated funds for co-investing with retailers / metering coordinators for advanced meters to be installed in network areas where these could be used to assist with network issues. AEMC, *Rule determination – Expanding competition in metering and related services Rule 2015*, November 2015, p.82.

Inputs with multiple value stream potential

The proposed rule changes also reflect a presumption that if technologies such as DER can derive multiple value streams across regulated and unregulated uses, then allowing DNSPs to invest in DER will negate these value streams from emerging. This also misunderstands the regulatory framework:

- As noted, having technologies (assets) with multiple value stream potential is not unique to DER.
- Where technologies (assets) such as DER are to be shared across DNSPs and other parties, and across regulated and unregulated uses, the framework already ensures that costs to regulated customers do not cover unregulated activities. For example:
 - Where a DNSP determines upfront that a device (e.g. a battery) will be used for both network support and selling into wholesale markets (by parties other than the DNSP as required by ring-fencing)—cost allocation provisions ensure that only a percentage of the battery’s cost, reflecting its expected network support use will be added to regulated services and assessed (via AER regulatory determinations or the RIT–D).
 - Where a DNSP determines upfront that a device such as a battery will be solely used for network support—cost allocation provisions allow the whole cost of the device to be added to regulated services for AER assessment. Here we consider as unfounded the AEC’s claim that DNSPs could be motivated to secure regulated funds for a device claimed to be solely for network support to then somehow generate benefits for affiliates:
 - > there would be a higher cost forming the basis of the AER or RIT–D comparisons against alternatives (i.e. procuring from a third party). These higher costs could render a DNSP DER option comparatively inefficient; and
 - > in deciding to share the battery’s use with an affiliate, the affiliate would need to be engaged on non-discriminatory terms according to the AER’s ring-fencing guideline. It would be open to other parties to offer competitive terms to share the battery’s use.
 - Where a DNSP determines retrospectively that a device (e.g. a battery) can be used not only for network support but also for unregulated purposes (by parties other than the DNSP)¹⁹—the DNSP would be guided by the current Shared Asset Guideline (SAG). The SAG applies a mechanistic approach to determining shared benefits.²⁰ Any concerns with asset sharing should be dealt with directly through the SAG, rather than undermining the regulatory framework’s intent by limiting DNSP discretion on their choice of inputs to network services.

3. Service classification considerations

The AEMC’s consultation paper queries if changes are required to the NEL and NER provisions guiding the steps of the service classification process. In our view:

- An overall objective for service classification is not required to ensure that only services with natural monopoly characteristics are economically regulated. As discussed above, the regulatory framework already requires market based assessments to be undertaken of services, being network services, generation services or energy selling services. This already ensures that only monopoly services will be regulated. We strongly agree with the AEMC that unless activities are delivered to electricity customers then they are not services to be classified.

¹⁹ SA Power Networks currently owns a number of generators on Kangaroo Island that were approved for network support purposes but which currently are not being used for unregulated purposes.

²⁰ If the unregulated revenue from the shared asset is expected to be more than one percent of the DNSP’s annual regulated revenue then a standard deduction to regulated revenue of ten percent is undertaken. If the expected unregulated revenue is below the threshold, then no change is required to regulated revenues.