

29 October 2021



Dr Kris Funston
Executive General Manager, Network Regulation
Australian Energy Regulator
GPO Box 3131
Canberra, ACT, 2601

Dear Dr Funston,

ELECTRICITY DISTRIBUTION DETERMINATION 2024-29 – REQUEST TO REPLACE THE FRAMEWORK AND APPROACH PAPER

The 2024-29 regulatory control period is shaping to be a transformative period for the National Electricity Market (NEM) and Endeavour Energy, as our customers increasingly become both providers and consumers of electricity services. Several reforms have been made or will occur in coming years to facilitate the establishment of a two-sided energy market for customers. These reforms are being coordinated by the Energy Security Board (ESB) in accordance with the Distributed Energy Resources (DER) Implementation Plan.

Technology and innovation are driving a change in our customers' expectations on the energy services provided to them directly and indirectly via the distribution network. With almost one in every four of our customers having already connected rooftop solar or batteries to our network, it will become important that our network can efficiently accommodate more distributed generation and allow customers to access markets and services to maximise the benefits from their DER investment. Our purpose of 'Powering Communities for a Brighter Future' has never been more relevant.

Against this backdrop, Endeavour Energy's current regulatory control period ends on 30 June 2024. We have commenced preparation for the next revenue proposal due to be submitted to the AER in January 2023. The first formal step in this process is an assessment of the existing Framework and Approach (F&A) paper that applies for the current regulatory control period, 1 July 2019 to 30 June 2024.

Under clause 6.8.1(c)(1) of the National Electricity Rules (NER or rules), Endeavour Energy may request the AER make an amended or replacement F&A in respect of a matter. This request must be made no later than 32 months before the end of the current regulatory control period and specify the reasons for making the request.

The AER must then make and publish a notice that states whether it will make an amended or replaced F&A paper in respect of the matters raised by the Distribution Network Service Provider (DNSP), or any other matter it considers necessary, by no later than 30 months before the end of the current regulatory control period.

Energy market reforms and evolving customer expectations have required us to consider how they might affect aspects of our 2024-29 regulatory determination, in particular the suite of distribution services we provide to customers and how they are regulated.

Accordingly, we request an update to the F&A paper be made in accordance with the NER. The new F&A paper should apply to the forthcoming revenue determination for Endeavour Energy, for the regulatory control period commencing 1 July 2024.

We consider that an amended or replacement F&A paper is required based on our assessment of the AER's Service Classification Guideline, prevailing F&A papers, regulatory and policy reforms and the feedback we have received through our customer engagement activities, which reveals that resilience, sustainability and customer choice through innovation are the pillars on which our customers increasingly expect their core expectations for a safe, affordable and reliable network to be delivered.

While this letter formally begins the distribution determination process, we have already commenced engagement with our customers and stakeholders on F&A matters. Notably, we collaborated with the NSW, ACT, NT and Tasmanian DNSPs to consult jointly with stakeholders on the service classification for a range of new and emerging energy services. Our preliminary positions have considered the feedback received from this consultation as well as ongoing discussions with our Regulatory Reference Group (RRG) on this and other F&A matters.

We have also worked collaboratively with the RRG to co-design a thorough and multi-phased stakeholder engagement program. Guided by our co-designed Engagement Plan, we will continue to engage with our customers and stakeholders openly and regularly in a concerted effort to meet our engagement objective and the AER's expectations as most recently outlined in the draft Better Resets Handbook.

We are pleased to initiate the regulatory determination process with the AER and look forward to working with our customers, stakeholders, and the AER in preparing our revenue proposal. If you have any queries or wish to discuss this matter further please contact Colin Crisafulli, Manager Network Regulation on [REDACTED] or via email at [REDACTED]

Yours sincerely,



Guy Chalkley
Chief Executive Officer
Endeavour Energy

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- **Request to replace the Framework and Approach papers for the 2024-29 regulatory control period**
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31 October 2021



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Attachment A: NSW/ACT/TAS/NT DNSPs: Consultation paper – Service classification

Attachment B: NSW/ACT/TAS/NT DNSPs: Summary report – Public forum on service classification

1. Introduction

The Framework and Approach (F&A) is the first step of the process to determine efficient revenues and prices for distribution services for the 2024-29 regulatory control period. The F&A sets out the AER's approach on a variety of matters that will influence this process including:

- how distribution services are to be regulated (service classification)
- how prices for these services will be controlled and/or revenues are set for those services (form of control)
- the application of regulatory incentive schemes.

Based on our initial review of these matters we consider that the F&A requires updating for the 2024-29 regulatory period. Our view has also been informed by feedback received from stakeholders, particularly in relation to service classification.

Clause 6.8.1(c)(1) of the National Electricity Rules (NER) requires Endeavour Energy to make this request to the AER to amend or replace these matters in relation to the 2024-29 distribution determination including the reasons for making such request.

These matters as listed in Clause 6.8.1(b) of the NER are set out in the sections below along with our reasons for making this request.

2. Service classification

Service classification defines the type of economic regulation, if any, that will apply to distribution services provided by Distribution Network Service Providers (DNSPs). This includes whether or not a service is subject to regulation, the approach to cost recovery and whether or not a service will need to be ring-fenced from other services provided by a DNSP.

In broad terms, service classification identifies the services provided by DNSPs exclusively and whether the costs of providing these services will be shared across the DNSPs customer base or be charged to individual customers on a user pays basis.

Service classification for 2024-29 takes on added significance with this period set to become a transformative phase for the National Electricity Market (NEM). It is therefore important that service classification can accommodate fast developing energy services - including those yet to emerge - and reflect changes to Endeavour Energy's role in transitioning to a new market design meeting the expectations from customers, stakeholders, regulators and governments for us to support and facilitate this transformation.

2.1. Reforms to the regulatory framework

Several policy, guidelines and rule changes have occurred since the 2019-24 F&A papers that apply to the current regulatory period were published. In most cases, these changes have been necessitated by new technologies which have enabled new energy services and models to emerge. This is reflected in the growing numbers of customers looking to benefit from these services through investment in rooftop solar and batteries.

These regulatory changes will have implications for the services and service quality Endeavour Energy can provide to customers during the 2024-29 regulatory period. Our preliminary view is that the distribution service groupings, descriptions and classifications require reassessing to ensure these reforms are appropriately incorporated. Key developments are outlined in Box 1.

Box 1: Recent changes to the regulatory framework

Framework for stand-alone power systems (SAPS) – the South Australian Parliament has passed a Bill to make the necessary changes to the National Electricity Laws (NEL) that will give effect to the AEMC’s recommended framework enabling DNSPs to supply customers via SAPS. Once the NER is subsequently amended and jurisdictional opt-in protocols are made, we can deploy SAPS to customers where: it is cost effective; supported by the customer; improves reliability; and strengthens network resilience with respect to bushfires and severe weather events.

Ring fencing guideline – this guideline governs the degree to which DNSPs can provide contestable services. The AER is in process of updating to the guideline to better capture emerging services, namely those which can be provided through SAPS and network-owned batteries. The updated guideline will provide clarity on the extent to which DNSPs can provide these services (either directly or indirectly) and will have implications for how they should be classified.

Service classification guideline – the service classification guideline was published with the objective to make the AER’s approach to service classification more transparent, consistent and predictable. To help achieve this, the guideline introduces a baseline list of distribution services for DNSPs to adopt and adapt where appropriate. Significantly, and in contrast to the 2019-24 service classification, the baseline list adopts terminology for connection services consistent with Chapter 5A of the NER.

Access, pricing and incentive arrangements for Distributed Energy Resources (DER) rule change – this multifaceted rule change provides networks with the tools required to efficiently manage the network impact of connecting and hosting DER. From a service perspective, export services now explicitly form part of the core services to be provided by DNSPs. Once implemented, DNSPs will be restricted from imposing zero export limits with new obligations to offer a basic level of exports at no cost with the option to provide customers an ability to export more than this at a cost to the customer.

Metering services framework review – the AEMC is considering introducing changes to speed up the smart meter roll out in the NEM and establish formal data sharing arrangements to help unlock the benefits smart meters can provide. Options being considered include allowing DNSPs to play a more direct role in installing smart meters or contributing to their cost. New arrangements may influence the cost recovery and classification for network-owned accumulation meters.

Post-2025 market design reforms – the Energy Security Board’s (ESB) DER integration pathway outlines several technical, market and regulatory reforms to better reward customer behaviour where it benefits the system and better equip networks to accommodate continued uptake of DER. The transition to a two-sided market means roles and responsibilities will change with DNSPs expected to operate the network in a more agile and proactive way. We expect most reforms will take effect during the 2024-29 period and will require us to provide new services in assuming a distribution system operator (DSO) role.

2.2. Integrating the views of customers and stakeholders

Endeavour Energy is committed to developing a regulatory proposal that reflects the needs and priorities of our customers. To help us achieve this, we have collaborated with our Regulatory Reference Group (RRG) to co-design a thorough and multi-phased stakeholder engagement plan. The RRG’s role is to help ensure our regulatory proposal meets the long-term interests of consumers. This is via a co-design process where Endeavour Energy supports the RRG’s ability to provide independent and expert advice on a range of topics.

Our engagement approach is collaborative, iterative and led by our executive management team and senior managers. We have also sought out opportunities for joint engagement with other DNSPs where appropriate to ease the burden on stakeholders who participate in multiple engagement processes.

In applying this approach, we collaborated with Ausgrid, Essential Energy, Evoenergy, TasNetworks and Power and Water (NT) to prepare a joint-DNSP consultation paper on service classification. The paper focused on eliciting stakeholder views on the role DNSPs are expected play in providing a range of emerging energy services and how these might be reflected in the service classification for 2024-29.

The consultation paper was published in August 2021 and is provided in Attachment A. This was followed in September 2021 by an online public forum co-hosted by Endeavour Energy and attended by a range of stakeholders whereby each topic area was discussed, and stakeholders given an opportunity to ask questions and provide their views. A summary of the discussions that occurred as part the Q&A sessions conducted during the forum is provided in Attachment B.

Overall, the forum was well received with all participants demonstrating an interest in understanding Endeavour Energy’s role in facilitating emerging services. It was considered important through service classification, that the AER provide certainty on these areas of interest for consumers.

We received five written submissions to the consultation paper. Table 1 below outlines the topic area which formed the focus of their response with a summarised overview of the submissions provided in Appendix B. In the sections below we outline our preliminary views on how emerging energy services should be reflected in the service classification for 2024-29 and highlight some of the feedback received that helped us form this view.

Table 1: Topic areas discussed in submissions to the joint-DNSP consultation paper

Stakeholder	Platform Services	SAPS	Electric Vehicles	Batteries	Smart public lighting
PIAC	✓	✓	✓	✓	
AGL	✓			✓	
Electric Vehicle Council			✓		
SSROC ¹					✓
WSROC ²					✓

¹ The Southern Sydney Regional Organisation of Councils (SSROC) is an association of 11 councils spanning Sydney’s southern, eastern, central and inner west suburbs.

² The Western Sydney Regional Organisation of Councils (WSROC) is a membership organisation that represents five local councils in the Greater Western Sydney region.

2.2.1. Distribution System Operator (DSO) services

Distribution networks are increasingly becoming a platform for DER with platform technology offering new ways for DNSPs to manage network capacity and the potential to lower costs and improve service outcomes for customers. By leveraging platform technologies and expanding their DSO activities, DNSPs can optimise a customer's ability to utilise DER and promote the stability of the electricity system by providing system strength services to AEMO.

Both SSROC and WSROC acknowledge that³

Re-framing the network as a platform for the provision of a range of service is fundamentally a move in the right direction. DNSPs are right to examine each of the services that can potentially be delivered using that platform, and where appropriate, those services should be contestable.

Regarding the contestability of these services, AGL also consider system security requirements could be met by procuring services through competitive arrangements⁴. On this issue, we would like to make clear that we would only be providing system support services that are not (and will not realistically become) competitively available. Instead, there will be support services that only DNSPs will be able to provide by virtue of our role as a DNSP, and more specifically a DSO (e.g., voltage control).

In addition to competition concerns, AGL also raised whether there is sufficient clarity in the ESB's policy direction to classify DSO related services at this stage⁵:

We do not consider it appropriate at this stage that distribution system operator (DSO) functions be explicitly recognised as distribution services as this would create further ambiguity about roles and responsibilities. Rather, further reform is required to ensure that the AER's network expenditure assessment framework supports the policy direction articulated by the ESB in its Post-2025 Market Design, towards encouraging and enabling consumers to be rewarded for their flexible demand and generation.

We acknowledge the ESB review has only recently completed but consider additional clarity will emerge over the course of the 2024-29 determination process. Given the service classification applies for a five-year period we consider it important to cater for our expected role in the post-2025 energy market. While further work is required, the ESB has provided a clear indication that networks have a specific role to play in supporting system stability and strength⁶:

With the evolution of the network towards a DSO role, it will need to work with AEMO to co-ordinate local and whole of system issues, and market participate registration and market offerings.

Importantly, DSO activities will enable customers to participate in two sided markets and be rewarded for their flexible demand and generation, while maintaining overall system security. This is consistent the objective of the ESB's integrating DER and flexible demand pathway.

Endeavour Energy preliminary position

In light of the ESB's expectations for DNSPs to work more closely with TNSPs and AEMO to ensure that minimum system security is maintained in a high DER system, we are proposing a new service group called 'system support services'. These activities are likely to include utilising dynamic network operating envelopes to signal system events or, in the medium term, direct load and/or generation shedding. They could also include services that facilitate local market support arrangements that have the potential to unlock significant benefits for the local communities which share the electricity grid.

³ SSROC, Submission to the NSW/ACT/TAS/NT Electricity Distributors Consultation Paper 1: Service Classification, 30 September 2021, p.3

2.2.2. Customer export services

The ability of DNSPs to monitor and manage the network impact of increasingly complex two-way energy flows plays an important role in supporting the continued take up of DER technologies and the emergence of new energy services and business models.

We have generally facilitated the export of electricity via our networks on an ad hoc basis for many years without this activity being subject to AER regulation or any service obligations. This has now changed with the AEMC's Access, pricing and incentive arrangements for DER rule change which requires networks introduce a customer export service, including a 'basic export' service and potentially an 'additional' export service (subject to customer and stakeholder engagement). Regarding the rule change, AGL consider it⁷:

provides an important package of reforms to improve access of DER to the electricity system. This will be facilitated through clearer distribution network export service obligations and a more sustainable regulated revenue model for the provision of distribution network infrastructure to support export services into the future.

On the issue of export service limits, PIAC stated⁸:

PIAC supports a generation capacity limit linked to the output of the inverter, rather than an export limit, which is linked to the flow through the meter. This is an equity and fairness issue

We expect to engage with our customers at a later date on setting appropriate basic export service levels and tariffs (as required). We note that the basic export service threshold may be largely dependent on the inherent capacity of existing network infrastructure to support current and forecast levels of export.

Endeavour Energy preliminary position

From a service classification perspective, we propose to recognise these export services and our obligation to provide them by adding them to the list of activities listed under the description for common distribution services.

2.2.3. Stand-alone Power Systems (SAPS)

Technological developments and the falling cost of renewable generation and batteries have made SAPS a technically viable and cost-effective solution for some 'high cost to serve' customers. These are typically customers at the end of long powerlines, especially in geographically remote, or hard to access, heavily vegetated areas, resulting in higher costs of supply for the network.

SAPS can also improve supply reliability, reduce the risk of network assets causing fires and improve the resilience of the network against major weather events. PIAC has acknowledged the benefits of DNSPs providing SAPS⁹:

4 AGL, Submission to NSW/ACT/TAS/NT Electricity Distributors Consultation Paper, Part One Service Classification, 30 September 2021, p.2

5 AGL, Submission to NSW/ACT/TAS/NT Electricity Distributors Consultation Paper, Part One Service Classification, 30 September 2021, p.3

6 ESB, Post-2025 Market Design Final advice to Energy Ministers - Part B, 27 July 2021, p.70

7 Ibid, p.3

8 PIAC, Submission to Distribution Network Service Classification consultation, 30 September 2021, p.1

9 Ibid, p.2

PIAC supports allowing DNSPs being able to transfer existing customers onto SAPS supply where it is a more efficient and preferable option to retaining traditional grid-connected supply. It will be an important tool to enable lower network prices for all consumers as well as improving the reliability and resilience of the customers being transitioned.

Amendments to the regulatory framework are in the process of being made to remove regulatory barriers which have prevented DNSPs from deploying SAPS (except temporarily during emergency events as they currently do). In accommodating the changes to the regulatory framework the AER are in the process of updating the distribution ring-fencing guideline for SAPS. The AER intends to introduce a broad-based exemption for networks, segregated into three groups, to provide the full suite of services involved in a SAPS (i.e. the generation related component of the service in addition to the distribution).

We strongly support the AER considering these benefits, which are in the long-term interests of all customers, when forming its position on DNSP-led SAPS. As noted by PIAC¹⁰:

While the Australian Energy Regulator is proposing allowing exemptions to ring-fencing for SAPS up to a certain number in a network, submitting and reviewing ring-fencing waivers to allow prudent SAPS installations to proceed above this limit is a substantial and unproductive resource drain for the DNSPs, the AER and stakeholders. It is clearly against the long-term interests of consumers if this complexity and burden prevents or delays otherwise efficient SAPS installations from proceeding.

Endeavour Energy preliminary position

We expect a DNSP-led SAPS framework to be formalised and implemented before the start of the 2024-29 regulatory period and therefore have proposed this be included as a new activity within the common distribution services group. As was explained in the public forum, including this in the service classification will not prevent customers from taking themselves off-grid by installing a SAPS and having the competitive market service them.¹¹

2.2.4. Leasing spare battery capacity

Grid-scale batteries can deliver significant benefits to the network, namely increasing DER hosting capacity and mitigating the impacts of both low and high demand that would otherwise require significant network expenditure. Where Endeavour Energy install batteries for these purposes, we also propose to allow third-parties to access the battery to provide contestable services.

Providing surplus capacity to third parties is an efficient way to allow third-parties to avoid duplicating the large up-front costs of building and installing a battery and unlocks multiple value streams which ultimately benefit customers.

PIAC supported allowing DNSPs to lease excess battery capacity to third parties and suggested this can lower the cost to consumers of these batteries and improve their investment case, allowing their benefits to be accessed more easily. They add¹²:

PIAC does not consider allowing distributor-owned batteries would necessarily exclude new entry and competition in emerging markets. Rather, we believe distributor-owned batteries can help maintain retail contestability in the provision of innovative energy services to customers. Through

¹⁰ Ibid, p.2

¹¹ NSW/ACT/TAS/NT DNSPs, Summary report: Online public forum on service classification, 15 September 2021, p.9

¹² PIAC, Submission to Distribution Network Service Classification consultation, 30 September 2021, p.4

competitive tenders, distributors can provide energy storage to the market at an efficient cost and on a non-discriminatory basis.

AGL was opposed to DNSPs providing contestable services with a battery whether the service consists of the supply of excess capacity to third parties, or the provision of other contestable services themselves with the battery¹³. As an alternative, they suggest that¹⁴:

the benefits could be achieved by procuring network service from third parties who can then re-direct excess capacity to other energy market services, boosting the return to the consumer plus providing wider system security and reliability benefits.

On this concern we wish to note two points. Firstly, classifying a leasing service does not preclude third parties from owning batteries and offering network support services to DNSPs. Where this is the most efficient option networks should select this option per their obligations under the RIT-D (where applicable) and incentives under the ex-ante regulatory framework and incentive schemes.

However, there may be instances where it is more efficient for the network to own the battery (in full or in partnership with other parties). This may be to ensure primacy of the network use of the battery, to ensure the battery is located in areas of network constraint and/or because it is not available competitively at a reasonable or cost-effective price. Given this, the service classification should accommodate either option so that third parties are able to access the battery where the network ownership option is necessary and justifiable.

Secondly, we consider that rather than harming the competitive market for battery-related services, leasing excess capacity from network batteries would facilitate the entry of new providers and improve competition for contestable services. We note the AER is currently revising the Distribution ring-fencing guideline for network ownership of batteries. We have advocated for targeted and proportionate controls to apply to network leasing of batteries. This includes requirements to demonstrate the efficiency of the network's contribution to the battery cost and/or ownership, that a reasonable cost allocation approach has been adopted to ensure distribution customers do not subsidise over-sized batteries or unregulated activities and that non-discrimination controls are in place such as open access.

As we indicated in the public forum, we envisage leasing battery storage would be similar in principle to providing third-parties access to our poles for other parties (i.e. telecommunication businesses) with revenue earned from providing this access used to offset the cost of installing and maintaining the pole paid by customers (subject to Shared Asset Guideline requirements).¹⁵

Endeavour Energy preliminary position

We propose to extend the definition of 'Distribution asset rental' to include leasing spare capacity from DNSP-owned assets. This approach is technology neutral and aligned to the NER framework which aims to regulate services (leasing out spare capacity) rather than specific types of assets (community batteries).

¹³ AGL, Submission to NSW/ACT/TAS/NT Electricity Distributors Consultation Paper, Part One Service Classification, 30 September 2021, p.2

¹⁴ Ibid, p.3

¹⁵ NSW/ACT/TAS/NT DNSPs, Summary report: Online public forum on service classification, 15 September 2021, p.12

2.2.5. Smart public lighting services

Over the last several years, old public lighting technology has been replaced via reactive or bulk replacement programs with LED luminaires. LED technology has provided several benefits to customers including reduced energy consumption and CO2 emissions, superior lighting performance and uniformity and reduced failures and maintenance requirements.

In addition to LED technology, several DNSPs and customers have trialled 'smart' enabled luminaires (via an attached node) combined with Control Management Systems (CMS) that allow for additional remote monitoring and operation including:

- Record of status (on / off status of luminaire)
- Fault triggers (including overcurrent and tilt)
- GPS locational services (GPS self-reporting and monitoring)
- Energy usage / metering (currently unaccredited but testing is ongoing)

These functions will increase the benefits associated with LEDs. It is our understanding that these smart enabled lights (and columns) will form part of smart communities that provide a range of enhanced services.

Whilst WSROC commended the joint work of the DNSPs on engaging early on the future of street lighting they mirrored the concerns raised by SSROC about the broader regulatory framework applied to public lighting¹⁶.

We note that when the current regulatory regime was conceived, street lighting was effectively a commodity product. But this situation has changed markedly with lighting having become much more like a fast-moving, end-use consumer appliance, and our view is that the regulatory approach has become a poor fit for this service.

We acknowledge these concerns and wish to engage further with Councils on how we can ensure the services we provide remain fit-for-purpose moving into the future. We would encourage Councils to engage with the NSW Government on reviewing whether the existing NSW Public Lighting Code remains appropriate. We note that for the AER's process, jurisdictional changes will likely be required first in order to change the service classification treatment.

Endeavour Energy preliminary position

Our preliminary position is to maintain the existing service classification in our 2024-29 regulatory period while continuing to engage with WSROC and councils individually about their service level and technology expectations. We would like to explore the possibility of the regulatory framework being more flexible and able to respond to changes in markets and technology within the five-year regulatory period to keep pace with service expectations of Councils.

2.2.6. Electric Vehicle (EV) charging infrastructure

There is expected to be a material growth in EVs across Australia in the coming years, particularly as Federal and State Governments take steps to promote the rollout of EVs. For networks, EVs represent a new and material source of load which we will need to manage. We currently anticipate being an enabler

of EV charging infrastructure and do not expect to deploy EV charging for public use as this is a contestable service that will be delivered by the market.

However, DNSPs will still need to respond to changes in the needs of our customers and potentially new types of customer, such as the owners of public EV fast-charging infrastructure, in providing distribution services. This role may change if there are other reforms and jurisdictional policies that requiring electricity distributors to take a more active role in promoting the uptake of EVs through owning, providing or contributing to the cost of EV charging infrastructure.

On the role of networks in supporting EVs the Electric Vehicle Council (EVC) commented¹⁷:

With respect to the nature of the DNSP role in EV charging, however, upstream of the EV charging equipment that connects to the vehicle there will need to be DNSP-owned assets in virtually every case. The only exceptions will be standalone systems, which will often be cost prohibitive to deploy, and which will be exceptions to the general rule. This makes the role of the DNSP not just facilitatory, but crucial to the successful transition of the national road vehicle fleet to electric.

We agree with this assessment by the EVC. It will be important that we consider the forecast take-up of EVs in preparing our expenditure plans and tariffs for the 2024-29 period.

Endeavour Energy preliminary position

We are not proposing to amend the baseline list of services in the AER's Service Classification Guideline to accommodate EV charging infrastructure. In our view, the facilitatory role that we expect to play in the rollout of EV charging equipment is already sufficiently captured in the baseline, as part of the definition for common distribution services. We will continue to engage with the Electric Vehicle Council and take steps to ensuring that Endeavour Energy facilitates an efficient rollout of EV charging infrastructure.

2.3. Our proposed service classification for 2024-29

In addition to our preliminary positions on emerging energy services, we propose to amend the service classification for 2024-29 reflect:

- the continued provision of services included in our 2019-24 service classification;
- the AER's recent service classification decisions for DNSP's in other jurisdictions;
- our understanding that the AER seeks to harmonise service classification across jurisdictions where possible (i.e. via the AER's baseline list of services); and
- regulatory arrangements for the provision of certain services that are unique to NSW.

In regard to the NSW-specific arrangements, the classification of connections services in the 2024-29 regulatory period must incorporate the contestable arrangements for connections. This allows customers who need certain connection services to physically connect to our distribution network a choice in which Accredited Service Provider (ASPs) provides this service. Commonly referred to the ASP scheme, customers pay their ASP for these services after which we are then 'gifted' any new connection assets to operate and maintain.

¹⁶ SSROC, Submission: NSW/ACT/TAS/NT Electricity Distributors Consultation Paper 1: Service Classification, 30 September 2021, p.2

¹⁷ EVC, Submission: NSW/ACT/TAS/NT Electricity Distributors Consultation Paper 1: Service Classification, 27 September 2021, p.2

Furthermore, the AER’s baseline list of distribution services introduces new connection service groupings and descriptions which applies naming conventions from Chapter 5A of the NER (i.e. basic, standard and negotiated connection services). This is in contrast from our current service classification which adopts components of connection services (i.e. premises, extensions, augmentations).

Whilst we have largely adopted the AER’s baseline list, our proposed classifications for connections services necessarily departs from the AER’s classifications included in the Service Classification Guideline which does not include contestability among the assumptions to inform the default classifications¹⁸. We welcome feedback on our proposed classifications for connection services to ensure they appropriately give effect to the connections framework in NSW and whether alternative classifications are required for different customer types (e.g. large, customers, real estate developers, embedded generators).

We note that contestability arrangements in NSW also requires the inclusion of ‘contestable network commissioning and decommissioning’ service group to list of network ancillary services. Also, we will further consider whether amendments are required to the ‘connection management services’ service group to ensure it captures the breadth of connection related services we provide to customers.

Appendix A includes our preliminary list of distribution services and their respective classification, although we believe there may be scope to refine the list to achieve consistency across each of the NSW DNSPs and following further public consultation on the F&A. We will continue to work with stakeholders on services which customers may value and believe should be provided by us. Table 2 below outlines the main changes we propose to the AER’s baseline list of distribution services¹⁹.

Table 2: Summary of key amendments to the AER’s baseline list of services

Classification type	Description	Classification
New service	Customer export services	Standard control
	Stand-alone power systems (SAPS)	Standard control
	System support services	Standard control
	Leasing spare battery capacity	Unregulated
Amendments to the AER’s baseline list of services	Temporary SAPS after an emergency	Standard control
	Training internal staff (currently classified)	Standard control
	Investigation of customer reported of network faults	Standard control
	Contestable network commissioning / decommissioning (currently classified)	Alternative control
	Work undertaken to determine cause of customer outage (currently classified)	Alternative control
	Rectification works to maintain network safety (currently classified)	Alternative control
	Inspection of privately owned infrastructure (currently classified)	Alternative control

¹⁸ AER, Electricity Distribution Service Classification Guideline, September 2018, p.21

¹⁹ See AER, Electricity Distribution Service Classification Guideline, September 2018, Appendix A,

	Customer triggered network asset relocations/re-arrangements (currently classified)	Alternative control
	Capital cost recovery of type 5/6 meters (currently classified)	Alternative control
	Emergency maintenance of failed contestable meters (currently classified)	Alternative control
	Distributor arranged outage to replace meters (currently classified)	Alternative control
	Connection services	Various classifications
	Unregulated distribution services – including asset rental and 3rd party training (currently classified)	Unregulated
No changes	EV charging infrastructure	Unregulated
	Public lighting services	Alternative control

In relation to emerging energy services, we propose system support services, export services and SAPS services be grouped with our core distribution activities and classified standard control service accordingly. We consider status quo arrangement should apply in relation to public lighting and at this stage have elected not to propose a classification for EV charging infrastructure.

A notable difference is our proposal to classify leasing spare battery capacity as an unregulated distribution service. The AER's Service Classification Guideline explains DNSPs may provide certain distribution services on an unregulated basis, which are also potentially provided by other service providers in a competitive market²⁰.

The main reasons we consider unregulated service is the appropriate classification include:

- The service qualifies as an unregulated distribution service as it would be provided "by means of, or in connection with, a distribution system".
- It will ensure the service is treated the same as other network assets for which we provide access to third-parties to provide contestable services.
- For newly acquired battery assets it will promote increased utilisation without requiring customers to pay when it is used to provide contestable services (i.e. via allocating the costs of the asset(s) between its standard control service and unregulated use).
- For existing battery assets it will allow a portion of the revenue received from third-parties (where material) to be shared with our customers through network price reductions (i.e. the Shared Asset Guideline).

3. Form of control

The form of control mechanism imposes limits over the revenue or prices of standard control services and alternative control services respectively that we can recover from customers.

The rationale as explained in the F&A for the 2019-24 period remains valid and supports maintaining the existing control mechanisms for the 2024-29 period. For instance, a revenue cap for standard control services benefits to consumers through:

²⁰ Ibid, p.22

- a higher likelihood of revenue recovery at efficient cost
- better incentives for demand side management
- lowers reliance on energy forecasts and price volatility
- stronger incentives for DNSPs to reduce expenditures
- promoting efficient tariff structures and progressing tariff reform

At this stage, we do not believe changing the form of control would lead to improved outcomes for customers. Furthermore, maintaining existing arrangements would avoid additional administrative costs and allow for consistency both across regulatory periods and across NEM jurisdictions.

Therefore, we propose a revenue cap apply for standard control services and a price cap for alternative control services.

4. Formulae to give effect to the form of control

We consider an amendment is required to the formula that gives effect to the revenue cap for standard control services with regard to the operation of the side constraints as it applies under clause 6.18.6 of the NER. Specifically, we consider the operation of this side constraint should be amended such that it does not prevent recovery of the determined revenue requirement.

We understand the AER will soon conduct a separate and more general review of the operation of the side constraint. We believe it appropriate for the F&A paper on this matter accommodate any relevant findings from this review.

5. Dual Function Assets

Dual-function assets are high voltage assets usually operated by TNSPs that form part of the distribution network. Where a DNSP owns, controls or operates dual function assets, the AER is required to consider whether to price these assets according to the transmission or distribution pricing principles.

The AER's decision to continue to apply distribution pricing to our dual function assets for the 2019-24 period was based on:

- the value of dual function assets representing an immaterial portion of the value of the overall regulated asset base;
- applying transmission pricing would not change their cost recovery or deliver any material change distribution prices; and
- increased administrative costs that would follow a change to transmission pricing.

These factors remain relevant and support maintaining distribution pricing for dual function assets in the 2024-29 period.

6. Incentive schemes

Endeavour Energy considers incentive-based regulation has been instrumental in delivering efficiency and reliability improvements for customers. In our view, the continued application of the AER's incentive schemes would encourage ongoing cost and service level improvements for customers over the 2024-29 period.

It is important to maintain a balance between incentivising cost reductions and service quality outcomes. On the latter, the existing customer service measure relates to telephone answering. We note other networks have replaced or expanded this measure with other measures of customer service to ensure the incentives they face remain balanced and deliver outcomes valued by customers. Given this, we

intend to consult with our customers and stakeholders as to whether a Customer Service Incentive Scheme (CSIS) should be implemented by Endeavour Energy.

Separately to the F&A process, we note the AER will soon commence a general review of the incentive scheme framework to assess whether it is delivering desired outcomes for customers. To the extent that individual schemes are subsequently amended after the final F&A paper is published, we will need to consider whether any updated scheme design should apply for the 2024-29 period.

6.1. Efficiency Benefit Sharing Scheme (EBSS)

We propose the AER continue to apply the EBSS in the 2024-29 period. For Endeavour Energy, we consider the EBSS has operated effectively and has contributed to consistent improvements in our opex PFP efficiency score since 2016. As a result of these improvements, we are now ranked the 4th most efficient DNSP out of 13 DNSPs²¹.

The EBSS has delivered benefits to Endeavour Energy and our customers in accordance with the sharing required by the rules. Whilst the EBSS was originally intended to provide for a 30:70 sharing of benefits between networks and customers the sharing ratio is sensitive to the WACC. As a result of the persistently low WACC in recent periods we note customers have enjoyed a larger share of the benefits of our material efficiency improvements over recent years (in the order of 15:85).

6.2. Capital Expenditure Sharing Scheme (CESS)

Like the EBSS, we consider the CESS provides a strong and effective incentive for DNSPs to reduce capital expenditure and we propose that it continue to apply in the 2024-29 period. It provides balance between incentives to reduce capex and opex and to efficiently limit RAB growth. We acknowledge that the question of balance between opex and capex incentives is a complex one with differing views on the extent to which the existing EBSS and CESS appropriately achieve this.

6.3. Demand Management Incentive Scheme (DMIS)

We propose the continued application of the DMIS in the 2024-29 period along with the Demand Management Innovation Allowance (DMIA). Through our engagement activities to date stakeholders have emphasised their desire for us to investigate and procure lower cost demand management and non-network alternatives.

Innovative technologies and new services models will enhance the capabilities of non-network solutions and improve the prospect of these solutions displacing conventional network investment. The DMIS will continue to play an important role in developing competitive markets for these emerging services and overcome any potential bias towards network capex solutions.

6.4. Service Target Performance Incentive Scheme (STPIS)

We propose the continued application of the STPIS for the 2024-29 period recognising it counterbalances the expenditure focused incentives and protects customers against deteriorating reliability outcomes.

The STPIS applies telephone answering (% of calls answered within 30 seconds) as the sole measure of customer service performance which is considered by some to be an outdated metric. Drawing from the recent experience of the Victorian DNSPs, we intend to collaborate further with our customers and stakeholders on whether this is a valued service for which we should continue to be rewarded if we exceed

²¹ As measured by opex PFP and MTFP indexes for 2020. Economic Insights benchmarking results for the AER 2021 DNSP Annual Benchmarking Report – 3 September 2021.

performance targets and whether it should be replaced by other more contemporary measures of customer service.

The AER is also obligated to consider introducing incentives for DNSPs to provide efficient levels of DER export services. This may include a review of the STPIS. Our understanding is that this review will occur separately to the AER's general review of the incentive framework.

If it is found that the STPIS can be feasibly extended to accommodate new incentives for exports and subsequently updated for this, we expect the revised STPIS (or alternate incentive scheme) would apply for the 2024-29 period. If revisions to the STPIS are finalised during the 2024-29 period, the STPIS should be available as soon as practicable without having to defer the consumer benefits until the following 2029-34 regulatory control period.

6.5. Small-scale Incentive Scheme

In July 2020, the AER published the Customer Service Incentive Scheme (CSIS) in accordance with clause 6.6.4 of the NER which sets out the AER's obligations on developing and applying a small-scale incentive scheme to a DNSP.

The CSIS is designed to encourage distributors to provide customer service outcomes that are valued by customers and not covered by the STPIS. The CSIS is unique in that it is a principles-based scheme which requires DNSPs to engage and collaborate with customers to tailor the design of the scheme to specific customer preferences and priorities.

We consider the CSIS can promote improvements in a range of services and intend to consult further with our customers on the merits of introducing the CSIS for the 2024-29 period. If there is sufficient support, we will collaborate with a broad range of customers to determine the performance metrics which should be captured by the scheme and the penalties and rewards which should apply to each measure.

We note the measures developed to date by the Victorian DNSPs that complied with the CSIS principles.

- outage notifications (via SMS)
- frequency and duration of planned outages
- customer experience measures, notably a survey covering satisfaction with:
 - communication on planned outages
 - communication on unplanned outages
 - customer service for new connections
 - compliant management

As per the AER's guideline, the CSIS will not work in tandem with the telephone answering component of the STPIS unless there is strong customer support. Through our customer engagements we will test whether customers wish to include telephone answering in the CSIS and consider any other measures not identified above.

7. Expenditure Forecast Assessment Guidelines

The AER's Expenditure Forecast Assessment Guidelines (the Guidelines) specifies the AER's approach to assessing proposed opex and capex forecasts and the information the AER requires for the purposes of that assessment. The current version of the Guidelines was published 29 November 2013.

In recent years, the AER has published several standalone documents to provide additional and consistent guidance to DNSPs and stakeholders on the AER's expectations and approach to assessing proposed network investment across a range of emerging and existing expenditure categories. These include:

- Asset replacement guidance note (January 2019)
- Non-network ICT capex assessment approach (November 2019)
- Capital expenditure assessment outline (February 2020)
- Repex model outline (February 2020)
- Draft DER integration guidance note (July 2021)

The targeted guidance in these documents broadly draws from the principles in the Guidelines and is designed to complement rather than replace the information contained in the Guidelines. Furthermore, this approach offers a pragmatic and flexible way for the AER to consult and provide detailed guidance on specific investment and capex categories which contrasts to the Guidelines' general and overarching guidance. It also avoids the need for regular revisions to the Guideline.

This highlights the need to taking a pragmatic and flexible approach to forming a view on the AER's approach to assessing regulatory proposals. On this, we note that AER has recently published the Draft Better Reset Handbook (September 2021). The Handbook sets out expectations and incentives for high quality engagement and outlines the AER's expectations on several key proposal matters (such as capex, opex and tariffs).

We support and welcome the AER providing clear, early and consistent guidance on how it will assess proposed expenditure, so we can prepare our engagements, develop our investment plans and challenge our forecasts accordingly. We consider the F&A process provides an ideal opportunity to flag an intention for a network to access a targeted review and for the AER to provide initial views. We acknowledge that for the 2024-29 determination, the AER may need to apply the Handbook on a trial basis and therefore adopt a more flexible approach to its application.

While the Handbook is yet to be finalised we intend to investigate applying it further with our customers and RRG. We consider there is value in accessing a more streamlined and efficient regulatory determination process and recognise that undertaking genuine engagement is central to developing a regulatory proposal that demonstrably reflects in the long-term interests of our customers. We welcome further discussions with the AER to better understand what the proposed 'targeted review stream' entails.

8. Depreciation

Depreciation refers to the allowance provided so capital investors recover their investment over the economic life of the asset. The regulatory depreciation allowance is the net total of the straight-line depreciation less the indexation of the RAB.

We support the application of forecast depreciation to establish the opening regulated asset base commencing 1 July 2024. This is consistent with the application of the CESS applied to Endeavour Energy in the current regulatory control period.

Appendix A: Endeavour Energy’s proposed service classification for the 2024-29 regulatory control period

[Tracked changes](#) indicates Endeavour Energy’s proposed amendments and/or additions to the AER’s baseline service classification list.

* denotes a change to include a service/activity included in our 2019-24 service classification

denotes a change to include a service/activity included in the service classification of another DNSP

† denotes a change to include a service/activity not previously included in our or another DNSP’s service classification

Service grouping	Further description	Proposed classification 2024-29
Common distribution service—use of the distribution network for the conveyance/flow of electricity (including services relating to network integrity)		
Common distribution services	<p>The suite of services that includes but is not limited to the following:</p> <ul style="list-style-type: none"> the planning, design, repair, maintenance, construction and operation of the distribution network the relocation of assets that form part of the distribution network but not relocations requested by a third party (including a customer) works to fix damage to the network (including temporary standalone power systems after an emergency, and recoverable works caused by a customer or third party)† support for another network during an emergency event procurement and provision of network demand management activities for distribution purposes training internal staff, accredited service providers (ASPs) and contractors undertaking direct control services* activities related to ‘shared asset facilitation’ of distributor assets²² 	Standard control

²² Revenue for these services is charged to the relevant third party and is treated in accordance with the shared asset guideline. ‘Shared asset facilitation’ refers to administrative costs. It does not refer to the costs associated with providing the unregulated service itself

- emergency disconnect for safety reasons and work conducted to restore a failed component of the distribution system to an operational state upon investigating a customer outage
- rectification of simple customer fault relating to a life support customer or other critical health and safety issues the distributor is able to address
- establishment and maintenance of National Metering Identifiers (NMI) in market and/or network [billing](#) systems, and other market and regulatory obligations
- ongoing inspection of private electrical works (not part of the shared network) required under legislation for safety reasons
- bulk supply metering - activities relating to monitoring the flow of electricity through the distribution network
- [investigation of customer reported network faults](#)#
- [customer export services back to the distribution network, including 'basic' and 'additional' exports](#)†
- [work related to a distributor-led SAPS deployment, operation and maintenance and customer conversion activities](#)†

System Support Services†

A suite of system support services that includes:

Standard control

- [support to AEMO for market verification, compliance and forecasting for DER](#)
- [support to AEMO during contingency events \(e.g. lack of reserve \(LOR\) and minimum system load \(MSL\), including increases and/or decreases in dynamic network operating envelopes, direct load and/or generation shedding and under/over frequency protection](#)
- [locational system strength services provided to transmission network service providers \(TNSP\) in support of system stability](#)
- [local market support services, such as establishing 'Local Use of System' \(LUOS\) arrangements for communities](#)

Network ancillary services—customer and third party initiated services related to the common distribution service

Contestable network commissioning and decommissioning* Includes the commissioning and decommissioning of network equipment associated with ASP Level 1 contestable works. Includes equipment checks, tests and activities associated with setting or resetting network protection systems and the updating of engineering systems. Alternative control

Access permits, oversight and facilitation Activities include: Alternative control

- a distributor issuing access permits or clearances to work to a person authorised to work on or near distribution systems including high and low voltage.
- a distributor issuing confined space entry permits and associated safe entry equipment to a person authorised to enter a confined space.
- a distributor providing access to switch rooms, substations and the like to a non-Local Network Service Provider party who is accompanied and supervised by a distributor's staff member. May also include a distributor providing safe entry equipment (fall-arrest) to enter difficult access areas.
- specialist services (which may involve design related activities and oversight/inspections of works) where the design or construction is non-standard, technically complex or environmentally sensitive and any enquiries related to distributor assets.
- facilitation of generator connection and operation of the network.
- facilitation of activities within clearances of distributor's assets, including physical and electrical isolation of assets.

Sale of approved materials or equipment Includes the sale of approved materials/equipment to third parties for connection assets that are gifted back to the DNSP to become part of the shared distribution network. Alternative control

Notices of arrangement and completion notices Examples include: Alternative control

- Work of an administrative nature where a local council requires evidence in writing from the distributor that all necessary arrangements have been made to supply

electricity to a development. This includes: receiving and checking subdivision plans, copying subdivision plans, checking and recording easement details, assessing supply availability, liaising with developers if errors or changes are required and preparing notifications of arrangement.

- Provision of a completion notice (other than a notice of arrangement). This applies where the real estate developer requests the distributor to provide documentation confirming progress of work. Usually associated with discharging contractual arrangements (e.g. progress payments) to meet contractual undertakings.

Network related property services

Activities include:

- Network related property services such as property tenure services relating to providing advice on, or obtaining: deeds of agreement, deeds of indemnity, leases, easements or other property tenure in relation to property rights associated with connection or relocation.
- Conveyancing inquiry services relating to the provision of property conveyancing information at the request of a customer.

Alternative control

Network safety services

Examples include:

- provision of traffic control services and safety observer services by the distributor or third party where required
- fitting of tiger tails and aerial markers
- third party request for de-energising wires for safe approach
- high load escorts
- [customer requested network inspection undertaken to determine the cause of a customer outage where there may be a safety and or reliability impact on the network or related component and associated works to rectify a customer caused impact on the network²³#](#)

Alternative control

²³ An ACS charge is not applicable where it is determined the customer outage was caused by a fault on the network.

Rectification works to maintain network safety*

Includes activities identified by the distributor and work involved in managing and resolving pre-summer bush fire inspection customer vegetation defects or aerial mains where the customer has failed to do so.

Alternative control

Includes managing payment arrangements for vulnerable customers unable to carry out rectification works themselves not limited to pre-summer bush fire inspections†

Customer requested planned interruption

Examples include:

- where the customer requests to move a planned interruption and agrees to fund the additional cost of performing this distribution service outside of normal business hours
- customer initiated network outage (e.g. to allow customer and/or contractor to perform maintenance on the customer's assets, work close or for safe approach which impacts other networks users).

Alternative control

Attendance at customers' premises to perform a statutory right where access is prevented.

A follow up attendance at a customer's premises to perform a statutory right where access was prevented or declined by the customer on the initial visit. This includes the costs of arranging, and the provision of, a security escort or police escort (where the cost is passed through to the distributor).

Alternative control

Inspection and auditing services

Activities include:

- inspection and reinspection by a distributor, of gifted assets or assets that have been installed or relocated by a third party
- investigation, review and implementation of remedial actions that may lead to corrective and disciplinary action of a third party service provider due to unsafe practices or substandard workmanship.
- private inspection of privately owned low voltage or high voltage network infrastructure (i.e. privately owned distribution infrastructure before the meter)*
- auditing of a third party service provider's work practices in the field

Alternative control

	<ul style="list-style-type: none"> re-test at a customer's installation, where the installation fails the initial test and cannot be connected. 	
Provision of training to third parties for network related access	Training services provided to third parties that result in a set of learning outcomes that are required to obtain a distribution network access authorisation specific to a distributor's network. Such learning outcomes may include those necessary to demonstrate competency in the distributor's electrical safety rules, to hold an access authority on the distributor's network and to carry out switching on the distributor's network. Examples of training might include high voltage training, protection training or working near power lines training.	Alternative control
Authorisation of and approval of third party service providers' design, work and materials	<p>Activities Include:</p> <ul style="list-style-type: none"> authorisation or re-authorisation of individual employees and sub-contractors of third party service providers and additional authorisations at request of the third party service providers (excludes training services) acceptance of third party designs and works assessing an application from a third party to consider approval of alternative material and equipment items that are not specified in the distributor's approved materials list. 	Alternative control
Security lights	<p>Provision, installation, operation, and maintenance of equipment mounted on distribution equipment used for security services, e.g. nightwatchman lights.</p> <p>Note: excludes connection services.</p>	Alternative control
Customer initiated or triggered network asset relocations/re-arrangements	Relocation of assets that form part of the distribution network in circumstances where the relocation was initiated by a third party (including a customer), or triggered by a customer's non-compliance with network safety or security standards#	Alternative control
Customer requested provision of electricity network data	Data requests by customers or third parties including requests for the provision of electricity network data or consumption data outside of legislative obligations	Alternative control

Third party funded network alterations or other improvements	Includes but is not limited to alterations or other improvements to the shared distribution network to enable third party infrastructure (e.g. NBN Co telecommunications assets) to be installed on the shared distribution network. This does not relate to upstream distribution network augmentation	Alternative control
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Metering services—activities relating to the measurement of electricity supplied to and from customers through the distribution system (excluding network meters)

Type 1 to 4 metering services	Includes but is not limited to type 1 to 4 metering installation ²⁴ and supporting services are competitively available.	Not classified
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Types 5 and 6 meter maintenance, reading and data services (legacy meters)	<p>Activities include:</p> <ul style="list-style-type: none"> • Recovery of the capital cost of type 5 and 6 metering equipment installed prior to 1 December 2017* • Meter maintenance covers works to inspect, test and maintain metering installations. • Meter reading refers to quarterly or other regular reading of metering installations including field visits and remotely read meters. • Metering data services includes for example: services that involve the collection, processing, storage and delivery of metering data, the provision of metering data in accordance with regulatory obligations, remote or self-reading at difficult to access sites, and the management of relevant NMI Standing Data in accordance with the NER. 	Alternative control
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Auxiliary metering services (Type 5 to 7 metering installations)	<p>Activities include:</p> <ul style="list-style-type: none"> • off-cycle meter reads for type 5 and 6 meters • requests to test, inspect and investigate, or alter an existing type 5 or 6 metering installation 	Alternative control
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²⁴ Includes instrument transformers, as per the definition of a 'metering installation' in Chapter 10 of the NER

	<ul style="list-style-type: none"> • testing and maintenance of instrument transformers for type 5 and 6 metering purposes • type 5 to 7 non-standard metering services • works to re-seal a type 5 or 6 meter due to customer or third party action (e.g. by having electrical work done on site) • change distributor load control relay channel on request that is not a part of the initial load control installation, nor part of standard asset maintenance or replacement. 	
Meter recovery and disposal – type 5 and 6 (legacy meters)	<p>Activities include the removal and disposal of a type 5 or 6 metering installation:</p> <ul style="list-style-type: none"> • at the request of the customer or their agent, where an existing type 5 or 6 metering installation remains installed at the premises and a replacement meter is not required • at the request of the customer or their agent, where a permanent disconnection has been requested where it has not been removed and disposed of by the incoming metering provider. 	Alternative control
Type 7 metering services	Administration and management of type 7 metering installations in accordance with the NER and jurisdictional requirements. Includes the processing and delivery of calculated metering data for unmetered loads, and the population and maintenance of load tables, inventory tables and on/off tables.	Standard control
<u>Emergency maintenance of failed metering equipment not owned by the distributor (contestable meters)*</u>	<u>Means the DNSP being called out by the customer or their agent (e.g. retailer, metering coordinator or metering provider) due to a power outage where an external metering provider's metering equipment has failed or an outage has been caused by the metering provider and the distributor has had to restore power to the customer's premises. This may result in an unmetered supply arrangement at this site. This fee will also be levied where a metering provider has requested the distributor to check a potentially faulty network connection and when tested by the distributor, no fault is found.</u>	<u>Alternative control</u>
<u>Distributor arranged outage for purposes of replacing meter*</u>	<u>Means a retailer or metering coordinator's request to provide notification to affected customers and facilitate the disconnection/reconnection of customer metering installations where a retailer planned interruption cannot be conducted.</u>	<u>Alternative control</u>

Connection services—services relating to the electrical or physical connection of a customer to the network

Basic connection services	Means a connection service related to a connection (or a proposed connection) between a distribution system and a retail customer’s premises (excluding a non-registered embedded generator’s premises) in the following circumstances: (a) either: (1) the retail customer is typical of a significant class of retail customers who have sought, or are likely to seek, the service; or (2) the retail customer is, or proposes to become, a micro embedded generator; and (b) the provision of the service involves minimal or no augmentation of the distribution network; and (c) a model standing offer has been approved by the AER for providing that service as a basic connection service.	<u>Premise connections:</u> <u>Unregulated</u> <u>Extension and augmentations:</u> <u>N/A</u>
Standard connection services	Means a connection service (other than a basic connection service) for a particular class (or sub-class) of connection applicant and for which a model standing offer has been approved by the AER.	<u>Premise connections:</u> <u>Unregulated</u> <u>Extension and augmentations:</u> <u>Unregulated (where undertaken by customer); or</u> <u>SCS + customer contribution (where undertaken or funded by DNSP)</u>
Negotiated connection services	Means a connection service (other than a basic connection service) for which a DNSP provides a connection offer for a negotiated connection contract.	<u>Premise connections:</u> <u>Unregulated</u>

Extension and augmentations:

Unregulated (where undertaken by customer); or

SCS + customer contribution (where undertaken or funded by DNSP)

Connection management services

Works initiated by a customer or retailer which are specific to the connection point. This includes, but is not limited to:

- Connection application related services
- de-energisation
- re-energisation
- temporary connections (of a size less than the shared network augmentation threshold) as a basic connection service e.g. builder's supply, fetes, etc.
- remove or reposition connection
- overhead service line replacement – customer requests the existing overhead service to be replaced (e.g. as a result of a point of attachment relocation). No material change to load
- protection and power quality assessment
- supply enhancement (e.g. upgrade from single phase to three phase)
- customer requested change requiring primary and secondary plant studies for safe operation of the network (e.g. change protection settings)
- upgrade from overhead to underground service

Alternative control

- rectification of illegal connections or damage to overhead or underground service cables
- calculation of a site specific distribution loss factor on request in respect of a generating unit up to 10 MW or a connection point for an end-user with actual or forecast load up to 40 GWh per annum capacity, as per clause 3.6.3(b1) of the NER
- power factor correction

Enhanced connection services

Other or enhanced connection services provided at the request of a customer or third party that include those that are:

- provided with higher quality of reliability standards, or lower quality of reliability standards (where permissible) than required by the NER or any other applicable regulatory instruments
- in excess of levels of service or plant ratings required to be provided by the distributor
- for large embedded generators (30 kW 3 phase or above and 5 kW 1 phase or above).

Premise connections:

Unregulated

Extension and augmentations:

Unregulated (where undertaken by customer); or

SCS + customer contribution (where undertaken or funded by DNSP)

Public lighting services—lighting services provided in connection with a distribution network

Public lighting

Includes the provision, construction and maintenance of public lighting and emerging public lighting technology.

Alternative control services

Unregulated distribution services

Distribution asset rental*

Includes:

- rental of distribution assets to third parties (e.g. office space rental, pole and duct rental for hanging telecommunication wires etc.)

Not classified

- leasing out spare capacity in an asset that will provide energy services by means of, or in connection with, the distribution system²⁵.†

Provision of training to third parties for non-network related access*

Includes training programs provided to third parties which are not ASPs or contractors.

Not classified

²⁵ The asset cost will be allocated between standard control and unregulated, with this allocation to be based on a cost reflective method that complies with Cost Allocation Principles in clause 6.15.2 and Endeavour Energy's approved cost allocation method.

Appendix B: Overview of written submissions to the joint-DNSP consultation paper on service classification for emerging energy services

Stakeholder	Submission high level summary	How we are responding
AGL	<ul style="list-style-type: none"> “Further reform is required to ensure that the AER’s network expenditure assessment framework supports the policy direction articulated by the ESB in its Post-2025 Market Design, towards encouraging and enabling consumers to be rewarded for their flexible demand and generation” 	<ul style="list-style-type: none"> We have put forward a new service group for ‘system support services’ which are proposing should be classified as a standard control service. This new service group includes activities that enable customers to be rewarded for their flexible demand and generation through, for example, dynamic network operating envelopes and direct load or generation shedding. Our proposal will also facilitate local market support arrangements for communities.
Electric Vehicle Council (EVC)	<ul style="list-style-type: none"> “The EVC would agree that in the long run, it is unlikely to make sense for the DNSPs to deploy electric vehicles (EV) charging equipment for public use. This is presently being done across the country by non-DNSP players in an increasingly competitive marketplace, supported by multiple federal and state government grant programs. Were DNSPs to be permitted to deploy public EV charging equipment as part of their respective RABs, this would be likely to disrupt the business models of the organisations successfully deploying EV charging equipment today. There is no need or benefit in extending the natural monopoly of the DNSP to include EV charging equipment. With respect to the nature of the DNSP role in EV charging, however, upstream of the EV charging equipment that connects to the vehicle there will need to be DNSP-owned assets in virtually every case. The only exceptions will be standalone systems, which will often be cost prohibitive to deploy, and which will be exceptions to the general rule. This makes the role of the DNSP not just facilitatory, but crucial to the successful transition of the national road vehicle fleet to electric. “ 	<ul style="list-style-type: none"> We are not proposing to amend the baseline list of services in the AER’s Service Classification Guideline to accommodate EV charging infrastructure. In our view, the facilitatory role that we expect to play in the rollout of EV charging equipment is already sufficiently captured in the baseline, as part of the definition for common distribution services. We will continue to engage with the Electric Vehicle Council and take steps to ensuring that Endeavour Energy facilitates an overly and efficient rollout of EC charging infrastructure.

Public Interest
Advocacy
Centre (PIAC)

- **DSO services:** “PIAC considers [DSO Services] will likely be a mix of input and services, for example, distribution system operator functions such as dynamic operation of the network and visibility are unlikely to be able to be provided to a customer individually and are therefore inputs, whereas dynamic connection agreements and associated export services are more likely to be services.”
- **Standalone Power Systems (SAPS):** “PIAC considers these functions will likely be a mix of input and services, for example, distribution system operator functions such as dynamic operation of the network and visibility are unlikely to be able to be provided to a customer individually and are therefore inputs, whereas dynamic connection agreements and associated export services are more likely to be services.”
- **Electric vehicles:** “Distributors should seek to encourage the efficient take-up of EVs while mitigating costs of EVs for consumer who do not benefit from them. Distributors should seek to develop specific EV charging station tariff that is cost-reflective and affordable for operators and customers while not forcing other customers to pay for services they do not benefit from.”
- We have put forward a new service group called ‘system support services’ which is currently not captured in our existing service classification table or in the AER’s baseline list of services. This new service group includes dynamic connection agreements while we have also include a new ‘customer export’ services group in line with the AEMC’s recent rule change.
- We acknowledge that SAPS are multifaceted. Accordingly, our proposal is for the discrete components of distributor-led SAPS to have their own classification. We are of the view that the network and fault and emergency response elements should be classified as standard control services while the generation and retailing components should be classified as unregulated.
- We look forward to continued engagement with PIAC on the efficient rollout of EV charging stations, as well as tariffs that are cost reflective and affordable for operators and the general customers base.

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Councils
(WSROC)

- “Re-framing the network as a platform for the provision of a range of service is fundamentally a move in the right direction. DNSPs are right to examine each of the services that can potentially be delivered using that platform, and where appropriate, those services should be contestable.”
- We note that the current regulatory regime was conceived, street lighting was effectively a commodity product. But this situation has changed markedly with lighting having become much more like a fast-moving, end-use consumer appliances, and our view is that regulatory approach has become a poor fit for this service
- We have put forward a new service group for ‘system support services’ which are proposing should be classified as a standard control service. This new service group recognises that our grid is transitioning to a platform and will facilitate that evolution in the 2024-29 period.
- We thank WSROC for making its submission and articulating its concerns about the current regulatory framework applied to public lighting. At this stage, our position is to maintain the existing service classification in our 2024-29 regulatory period while continuing to engage with WSROC and other councils about their service level and technology expectations. We would like to explore the possibility of the regulatory framework being more flexible and able to respond to changes in markets and technology within the five year regulatory period.

Attachment A

NSW/ACT/TAS/NT DNSPs: Consultation paper – Service classification





NSW/ACT/TAS/NT ELECTRICITY DISTRIBUTORS

CONSULTATION PAPER



PAPER ONE: SERVICE CLASSIFICATION



INTRODUCTION

Ausgrid, Endeavour Energy, Essential Energy, Evoenergy, TasNetworks, and Power and Water (NT) are pleased to provide you with the first of potentially several joint consultation papers.

The focus of this consultation paper is 'emerging energy services'. To help inform our own views, we are seeking feedback from stakeholders on a key question:

What role, if any, should electricity distributors play in providing the emerging energy services listed below.



Platform services



Standalone power systems



Electric vehicle charging infrastructure



Leasing battery capacity



Smart public lighting

We are asking the above question in the lead up to the first official step in the 2024-29 regulatory determinations process. This is known as the Framework and Approach (F&A) paper, which commences in October 2021.

The F&A paper, among other things, sets out the Australian Energy Regulator's (AER) initial position on service classification. This is an important milestone in the 2024-29 determination process because it involves classifying which services are a 'distribution service' and determining their economic regulatory treatment. Under the AER's Ring-fencing Guideline, electricity distributors (outside of the Northern Territory) can only provide 'distribution services'.

The feedback we receive will be incorporated into a letter we are each required to submit to the AER in October 2021, when the F&A process begins. In doing so, we are seeking to incorporate customer and stakeholder feedback at the earliest opportunity when engaging with the AER.

Why we are jointly consulting

Ausgrid, Endeavour Energy, Essential Energy, Evoenergy, TasNetworks, and Power and Water (NT) are all on the same AER regulatory cycle, with proposals for our upcoming 2024-29 regulatory control period due on 31 January 2023.

In recognition of this, we have worked together to create this document to jointly engage with our stakeholders on a key regulatory issue known as the 'classification of distribution services'. While we may not have all the same stakeholders, joint consultation will provide us with an opportunity to hear a broader spectrum of views all at once.

Our ambition is to collaborate where we see opportunities that can benefit stakeholders, and ultimately our customers. Following the release of this consultation paper, we expect to run more joint engagements, starting with a public forum on 15 September 2021, to discuss the issues raised in this paper. We welcome feedback on the questions posed in this consultation paper and any suggestions on how we should approach joint engagement in the future.



F&A process initiated
Oct 2021



F&A paper published
Jul 2022



Proposals submitted
Jan 2023



Draft decision
Sep 2023



Revised proposal
Dec 2023



Final decision
Apr 2024

How to participate

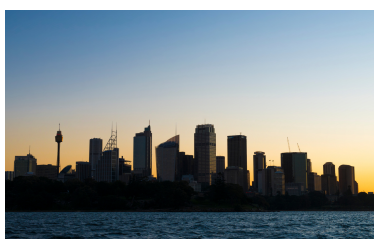
There are two opportunities to participate in this engagement: provide a written submission and/or attending an online public forum on 15 September 2021 hosted by the NSW/ACT/TAS/NT electricity distributors.

Written submissions are open until 30 September 2021. They can be sent via email to your electricity distributor using the contact details below.

- Ausgrid: Alex McPherson at alex.mcpherson@ausgrid.com.au
- Endeavour Energy: Colin Crisafulli at colin.crisafulli@endeavourenergy.com.au
- Essential Energy: Natalie Lindsay at natalie.lindsay@essentialenergy.com.au
- Evoenergy: Gillian Symmans at gillian.symmans@actewagl.com.au
- TasNetworks: Chantal Hopwood at chantal.hopwood@tasnetworks.com.au
- Power and Water (NT): Brendon Crown at brendon.crown@powerwater.com.au

Each electricity distributor will co-ordinate in the collation of the submissions we each receive from stakeholders. If you have any questions, then please use the relevant contact details above.

New South Wales



Australian Capital Territory (ACT)

Tasmania

Northern Territory (NT)

Note:

The purpose of this joint consultation paper is to elicit stakeholder views on certain regulatory issues relating to provision of emerging energy services, including the appropriate classification and treatment of these services for regulatory purposes. These regulatory issues are likely to be common across the upcoming revenue determination processes for each electricity distributor.

The businesses that have contributed to this document are each aware of their obligations under the *Competition and Consumer Act 2010* (Cth) and take these obligations very seriously. The sole purpose of the joint consultation is to inform the businesses' submissions to the AER regarding appropriate regulatory treatment of emerging energy services. The businesses will not exchange any information about customers, pricing or service offerings which may be competitively sensitive, and any commercial decisions about these matters will be made by each business independently.

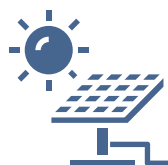
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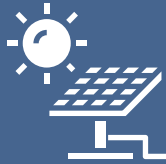
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PART ONE: REGULATORY FRAMEWORK

1.1 OVERVIEW

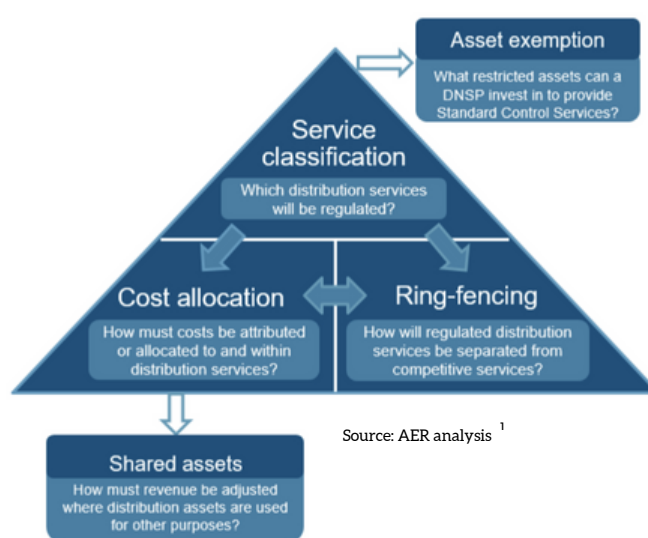
Service classification determines the type of economic regulation, if any, that the AER applies. It has significant implications as, in conjunction with the AER's Ring-fencing Guideline,¹ electricity distributors (outside the NT) can only provide services that the AER recognises as 'distribution services'.

The upcoming F&A service classification process for our 2024-29 regulatory period is critical in the context of broader energy market reform and technological change. In the past the range of distribution services was stable and quite limited, whereas today the suite of services that networks offer is evolving at a rapid pace due to an unprecedented transformation of the electricity supply chain. How the regulatory framework, through the AER's service classification process, responds is an important consideration that has implications for the services that customers receive. This is outlined in more detail in section 1.2 below.

1.1.1 Inter-relationships with other regulatory arrangements

There are inter-relationships between service classification and other parts of the regulatory framework. Some of these interrelationships are illustrated in the figure to the side. Notably, the classification of a particular service drives 'ring-fencing' outcomes.

Ring-fencing separates services that are deemed capable of delivery via a competitive market, from monopoly distribution services which are regulated. Electricity distributors can provide services that are distribution services, whereas services that are not a distribution service can only be offered by a legally separate affiliate (different arrangements exist in the NT).



The AER's approach ¹

Step 1: Is it a distribution service?

The AER must first be satisfied that a service is a 'distribution service'. The NER defines this term (see section 1.2 below for more information).

Step 2: Should it be a direct control or negotiated distribution service?

Once a service is classified as a distribution service, the AER will consider whether economic regulation of the service is necessary. It will make this decision having regard to a range of factors set out in the NER. A principle consideration for the AER is whether the customer of the distribution service has enough bargaining power to negotiate the terms and price of the service independently with the network. As there are generally no other service providers that can provide a distribution service, this is rarely the case meaning the AER generally steps in to regulate the service, i.e. directly control it.

Step 3: Standard control or alternative control service?

Finally, having determined that a service should be classified as direct control, the next step is to further classify it as either a standard control service or alternative control service. See section 1.2 below for more information.

1.2 KEY CONSIDERATIONS

We believe that our customers and other stakeholders should have a significant say on the services we offer as a regulated electricity distributor. We in particular want to hear from stakeholders about their expectations regarding the services that we should offer over the coming years.

In providing this feedback, it may be helpful to consider that Ausgrid, Endeavour Energy, Essential Energy, Evoenergy, TasNetworks can generally only provide services that the AER recognises as a 'distribution service' (different arrangements apply in the NT). The term 'distribution service' is defined in the NER as:

a service that is provided by means of, or in connection with, a distribution system.

1.2.1 What is 'by means of' or 'in connection with' a distribution system

A distribution system relates to the assets and equipment owned and operated by network service providers which, together with connections to other networks and users, convey electricity to customers. The Australian Energy Market Commission (AEMC) further notes:²

- Services provided "by means of" a distribution system are services provided **wholly or substantially** by, or through, the network and connection assets that together form a distribution system.
- Services that are provided "in connection with" a distribution system are those services that have a **clear functional nexus with a distribution system**, but which are **not** necessarily provided through equipment or facilities that are physically connected with a distribution system.

Example of a distribution service

Street lighting, including standalone street lights, are recognised to be "by means of" or "in connection with" the distribution system.³



Example of a non-distribution service

Assets 'behind the meter' such as rooftop solar and small-scale batteries located on a customer's premises.



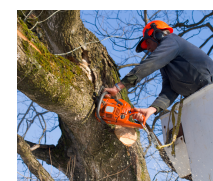
1.2.2 Is the item in question a service or an input into a service?

This is an important distinction because the AER classifies the 'service' in question rather than the 'input'. The AER's service classification guideline provides guidance on this distinction:

- **Service:** something usually offered to a customer on a stand-alone basis for a price.
- **Input:** the underlying capital or operating inputs a network utilises to provide a service.

Example of the input / service distinction

Tree trimming near network assets is not offered directly to customers for a price. Instead it is an 'input' into the safe and reliable supply of electricity - which is recognised as a (distribution) 'service'.



Note 1: Different arrangements apply in the Northern Territory

Note 2: AEMC, Final Determination: National Electricity Amendment (Alternatives to grid-supplied network services) Rule 2017, p. 28

Note 3: In some networks, these distribution services are classified by the AER as regulated 'direct control' where in other networks they are not

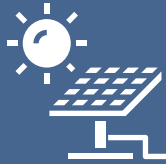
1.2.3 Classification as standard or alternative control services

Once the AER determines that a distribution service should be classified as direct control, it then further classifies it as either a standard control service or alternative control service.

- **Standard control services** are the basic network services relied on by all customers. The costs of these services are bundled together to form the AER allowed amount of revenue that networks can earn from the provision of standard control services. This revenue is then recovered from retailers, and through them, customers.
- **Alternative control services** are usually provided to individual customers on an ad hoc basis, typically on request, such as a customer requested electricity pole relocation. The cost is then recovered directly from the customer who is provided with the service, using a fee/charge which is regulated by the AER.

The NER requires the AER to take the following considerations into account when classifying a service as either 'standard' or 'alternative control':

Factor	What this means
The potential for development of competition in the relevant market and how the classification might influence that potential.	Where a service can (or will likely be able to) be provided by the competitive market, then it is more likely to be classified as an alternative control service. Where a service is unlikely to be able to be provided by anyone other than an electricity distributor, then it is likely to be classified as a standard control service.
The possible effects of the classification on administrative costs of the AER, the electricity distributor and users or potential users.	Whilst electricity distributors could theoretically set individual prices for every customer connected to the network and thereby price every individual service delivered to customers, in reality this would be an extremely cumbersome and time-consuming task. Instead the costs for standard control services can be grouped together and shared between broad groups of customers. Prices for alternative control services can be slightly more bespoke to consider the true cost of delivery, such as distance travelled or hours of work required.
The desirability of a consistent regulatory approach to similar services (both within and beyond the relevant jurisdiction).	Historically the AER would generally carry over the classification from the prior period. Over the last few years, the AER has moved away from this approach to drive consistency between the classification of services across electricity distributors. There are still some nuances in classifications, though this is now mainly due to jurisdictional differences
The extent the costs of providing the relevant service are directly attributable to the person to whom the service is provided.	In circumstances where a service is provided to a small number of identifiable customers on a discretionary or infrequent basis, and costs can be directly attributed to those customers, it may be more appropriate to classify the service as an alternative control service than as a standard control service.














PART TWO: EMERGING SERVICES

2.1 INTRODUCTION

Part 1 of this consultation paper sought to give stakeholders the necessary background on the regulatory framework for service classification. In part 2, we aim to lay the platform for engagement on specific 'emerging services', some of which are being made possible by new technologies, and pose a set of targeted questions for feedback.

Whilst we are engaging on a joint basis it is important to note that the degree to which each electricity distributor will be impacted by emerging technologies, and will seek to provide new services, varies. Some of these differences are summarised below. Evoenergy, for example, does not expect to provide a leasing battery capacity service and is not responsible for public lighting in the ACT. Different arrangements also apply in the NT, including a 'NT version' of the NER which applies to Power and Water (NT).

Expected role in providing emerging services in 2024-29 period

	 Platform services	 Standalone power systems	 Electric vehicle charging infrastructure	 Leasing battery capacity	 Smart public lighting
 Ausgrid	●	●	●	●	●
 Endeavour Energy	●	●	●	●	●
 essential energy	●	●	●	●	●
 TasNetworks Delivering your power	●	●	●	●	●
 evoenergy	●	●	●	●	●
 PowerWater	●	● ¹	●	●	●

● Expected to play a more active role
 ● Expected to play a facilitatory role only
 ● Not expected to play a role

Note 1: Power and Water (NT) is responsible for a number of standalone power systems that are not subject to regulation by the AER.

2.2 PLATFORM SERVICES

Electricity networks are increasingly becoming a platform for distributed energy resources (DER), with this evolution having the potential to introduce a suite of new platform services in the 2024-29 regulatory period.

Platform technology introduces new ways for electricity distributors to manage network capacity. Traditionally this could only be done through 'poles and wire' solutions, whereas now it can be achieved by leveraging existing grid infrastructure as a 'platform' for DER. For electricity distributors this means that adding more network **inputs** (poles and wires) is not necessarily the only, or most efficient, option. Instead platform enabling technology can be used as an **input or service** for managing capacity through smarter utilisation of existing assets. The difference between 'inputs' and 'services' is outlined in section 1.2 above.

Platform enabling technology

Through smarter utilisation of existing assets, platform enabling technologies can improve the management of import and export capacity and potentially avoid traditional 'poles and wire' solutions.



Expanding on existing platform services has the potential to lower costs and improve service outcomes for customers. The new services may facilitate peer-to-peer trading, provide network support or allow electricity distributors to offer system services to the market operator. Platform services are also likely to incorporate a recently made AEMC rule change recognising customer exports as a 'distribution service'.

2.2.1 Existing distribution system operator (DSO) activities are expanding

Becoming a platform for DER is closely related to the expansion of distribution system operator (DSO) functions.

Electricity distributors have always been the DSO responsible for managing and operating the distribution systems. However, this task is becoming increasingly important and more complex as more DER connects to the grid. Specifically, we envisage DSO functions to expand in the following ways:



Dynamic operation

- Continuing to safely and reliably operate and maintain a more dynamic distribution system.



Low voltage visibility

- Obtaining appropriate visibility of the low voltage network to facilitate DER integration and better network control, through investment in network assets and/or the purchase of customer-side data.



Expanded digital capabilities

- Undertaking spatial forecasting of network constraints.
- Collecting data on network and DER utilisation and constraints and providing it to competitive markets.
- Calculating appropriate pricing signals for the range of devices that can respond to specific locational constraints.



Dynamic connection agreements

- Connection agreements that can be tailored to a customer's supply arrangements for different prices. For example, a customer with a sizeable battery system may want firmer access (a higher guarantee that they will be able to use their battery when they want to) whereas a small solar customer may be willing to be curtailed (have their exports reduced by their electricity distributor) during peak times in exchange for lower network charges.

2.2.2 System strength services to the market operator

By leveraging platform technologies and expanding their DSO activities, electricity distributors have the ability to promote the stability of the electricity system. One of the key ways in which this can be done is by providing 'system strength services' to the market operator.¹

Innovation in 'operating envelopes' are expanding DSO functions.

Operating envelopes limit the electricity that a customer can import and export as part of the customer connection or regulatory process. There can be 'static' and 'dynamic' operating envelopes (see breakout boxes to the right). Innovation in this space can provide 'system strength' services through:

- DSO functions evolving from establishing static limits at the time of connection to embracing dynamic export limits through real time operating envelopes
- DSO functions dynamically configuring the network and managing voltage to support a market operator with the regional supply and demand balancing
- DSO functions continuing to enact load (and generation) shedding directions from the Australian Energy Market Operator (AEMO).

In the NT, reforms are already being introduced which place responsibility on Power and Water (NT) to ensure the regulated systems have sufficient system strength capability to ensure voltage stability and sufficient fault current. Responsibilities extend to managing network voltage control and capacity shortfall across the system. These changes are in response to the growing uptake of utility-scale and behind-the-meter solar photovoltaic (PV) and require Power and Water (NT) to consider network augmentation along with the emergence of new technologies capable of providing system strength and voltage support services.

All regions in the national electricity market will need to expand their DSO functions to manage network voltage control and capacity shortfall. Leveraging existing distribution network capabilities means customers and communities across Australia will get the most value from the shared distribution networks that everyone has invested in. According to the AEMC, these services would be provided by electricity distributors; however, they may not fall under the banner of 'standard' or 'alternative control services' and so require consideration in the F&A service classification process.

Static operating envelopes

Currently the operating envelopes for the import and export of electricity are 'static' and fixed at conservative levels to account for 'worst case' scenarios.

Dynamic operating envelopes

Agreements that allow import and export limits to vary over time and by location, enabling higher (lower) export levels from customers' solar and battery systems when there is more (less) hosting capacity on the network.

Stakeholder feedback

The DSO functions expected from electricity distributors are expanding as DER penetration increases and networks face the challenge of how to integrate these assets and technologies in a way that helps customers to maximise their investment, while supporting the transformed energy grid. We are therefore interested in engaging with stakeholders on this topic at an early stage in the 2024-29 regulatory determination process.

Question 1: Do you want to engage more with electricity distributors on how their DSO functions are changing?

Question 2: Do you think that the developing DSO functions listed in section 2.3.1 should be expressly recognised as a distribution service? This may involve considering whether the functions are an 'input' or a 'service' (see section 1.2 above).

Question 3: Besides service classification, are there any other regulatory processes that should be considered in relation to changing DSO functions? This may include, for example, connection policies/rules.

Note 1: AEMO in all national electricity market regions except the NT where the market operator is NTEMSO

2.2.3 Customer export services

Until recently energy flowed in only one direction - from large-scale generators to customers.

With the rapid customer take up of technology like solar panels and battery storage, this has changed. Customers can now generate, store, and export their own energy and networks are supporting two-way flows of electricity.

While all electricity distributors have at least some inherent capacity to accept energy exports from customers, the distribution network was not designed to accommodate two-way flows. Electricity distributors have been responding to these challenges, yet in some locations power quality issues are arising and the capacity of networks to accept large amounts of energy exports is being challenged.

The impact that this can have on customers is prompting them to change their expectations of electricity distributors and their views on what constitutes a 'distribution service'.

Regulatory reforms

Electricity distributors already facilitate the export of electricity via our networks, yet this activity is not currently subject to AER regulation and we have no service obligations.

This has changed with the recent AEMC rule change that allows networks to introduce a customer export service, including a 'basic export' service and an 'additional' export service (subject to customer and stakeholder engagement).

We want to engage with customers and other stakeholders about this development. This includes a discussion of the nature of a regulated export service and any tariff arrangements that will apply. The feedback we receive will directly inform our own views about the AER's service classification in relation to the hosting of DER by networks and the implementation of the AEMC's regulatory reforms.

How recognising exports as a service benefits customers

Most residential and small business customers with solar PV systems currently export electricity into the grid. By recognising this activity in the NER as a distribution service, electricity distributors will be able to more efficiently and fairly respond to emerging challenges.

DER 'traffic jams' are occurring. They happen when a large number of customers export their solar energy at the same time into a grid originally built for one-way energy flows. These traffic jams are becoming more prevalent and can stop solar PV customers realising the full value of their DER investment by curtailing (limiting) their exports. They can also impact non-solar customers, for example, through reduced electricity reliability.

More investment in DSO activities and platforms is required to address these challenges. As this takes place, the recognition of customer exports as a distribution service, together with the appropriate tariff arrangements, will benefit all customers and the electricity market more generally, as outlined below.

Who	Benefits
Solar customers	<ul style="list-style-type: none"> • Will still be able to earn a feed-in tariff for exports to the grid • Opportunity to share in the benefits that their exports offer the grid e.g. being paid for exports into the network during peak load times • Improved equity for late adopters who may otherwise have been unable to export or even connect their DER to the network
Non-solar customers	<ul style="list-style-type: none"> • More equitable pricing and costs recovery arrangements • Investment undertaken to relieve solar export congestion can be more fairly funded by the customers who benefit from this service
Electricity market	<ul style="list-style-type: none"> • Facilitate the integration of more DER • Solar generated electricity can help lower the wholesale price of electricity, allowing retailers to pass on savings to all consumers.

Efficiency

Pricing export services can send efficient tariff signals to customers about the cost and benefits of exporting DER to the grid



Fairness

Customers who export energy will pay a 'fair share' for DER enablement upgrades and receive a 'fair share' in the network benefits from their exports.



Stakeholder feedback

We are interested in hearing from customers and other stakeholders about their different price and service level expectations for exporting energy, as this could influence how export services are recognised in our 2024-29 determinations.

Our initial view is that customers are likely to have different price and service level expectations depending on whether they are importing or exporting electricity:

- **Importing:** an essential 'always on' service which requires a high level of reliability
- **Exporting:** not required to meet essential needs and therefore can be turned 'on and off' in line with customer preferences and economic and technical considerations.

For example, many solar PV customers may prefer having their exports curtailed if there is a surplus of solar PV generation provided it leads to less network investment. Electricity distributors may, in addition, offer different grades of export services. For example:

- **Basic:** an export allowance with no charge up to a maximum threshold
- **Additional:** in exchange for a fee the ability to export more electricity to the grid than under the basic service.

Question 4: Do you have a view on electricity distributor's offering a 'basic' export service and a 'additional' export service, depending on network limitations?

Question 5: What are your expectations from an electricity distributor providing an export service? Do these expectations change depending on whether a customer is importing or exporting energy?

2.3 STANDALONE POWER SYSTEMS (SAPS)

Electricity distributor owned Stand-alone Power Systems (SAPS) are an 'off grid' economic alternative to 'poles and wires'. SAPS generally comprise solar PV, batteries and, sometimes, backup diesel generators. The term SAPS is used to encompass both microgrids, which supply electricity to multiple customers, and individual power systems, which serve only a single customer.

Technological developments and the falling cost of renewable generation and batteries have made SAPS viable solutions for some 'high cost to serve' customers whereas in the past this may not have been the case. These are typically customers at the end of long powerlines, especially in geographically remote, or hard to access, heavily vegetated areas, resulting in higher costs of supply for the network. These costs (such as vegetation management around infrastructure) are currently shared between all electricity customers. SAPS can provide customers with increased reliability, reduce bushfire risk and lower network prices for all customers.



2.3.1 Including SAPS services in the regulatory framework

Deploying SAPS, when efficient, is a mechanism for distribution networks to deliver efficiency benefits to all customers.

When the 'poles and wires' in remote parts of the distribution network are removed, and customers are supplied electricity via SAPS, there can be a significant reduction in network costs, which in turn delivers savings to all network and SAPS customers. These savings are driven by reduced operational costs, and the ability to remove poles and wires along long lines, often through difficult terrain, that serve very few customers. In addition, SAPS customers will likely benefit from improved reliability as their remote or rugged locations are typically prone to network outages. SAPS could also be preferable for new connections located in remote areas, avoiding the need to build new 'poles and wires'.

SAPS can also reduce bushfire risk as electricity infrastructure, that could potentially spark and ignite a bushfire, is either no longer energised or is completely removed. SAPS also have the potential to embed resilience in the network, enabling a customer or community to isolate itself and remain energised in an emergency. This is particularly important for keeping telecommunication towers and fire-fighting equipment (water pumps) operational.

As electricity distributor's experience more natural disasters such as bushfires, storm events and floods, SAPS can be utilised in emergency and asset replacement events, allowing electricity distributors to continue to provide power supplies for their customers but without automatically replacing assets on a like-for-like basis.

Electricity distributors require the flexibility to deploy SAPS that are fit-for-purpose and provide services (including pricing) in a way that encourages the efficient use of the SAPS. This will optimise the ability of all customers to realise efficiencies and savings. SAPS customers will benefit from this flexibility if they are engaged, informed and are provided with the opportunity to reduce their electricity costs based on changes they are able to make to their usage. Under SAPS solutions, the AER and various jurisdictional ombudsman schemes would retain their oversight and provide customer protection functions.

Increased flexibility will also promote innovation and increase customer choice of products and services. Under all future SAPS scenarios we are proposing the same (or improved) service that customers would have received if they were still served by 'poles and wires'. A robust framework for the deployment of SAPS can therefore deliver significant benefits while ensuring that SAPS customers experience the same service standards and protections afforded to other customers.

Stakeholder feedback

The provision of SAPS services are in the process of being integrated within the service classification framework for the NSW, ACT, and Tasmanian electricity distributors. Power and Water (NT) in the Northern Territory is responsible for a number of standalone power systems that are not subject to regulation by the AER.

For the 2024-29 regulatory period, we are seeking feedback on the following questions:

- Question 6:** What practical considerations should be taken into account to ensure electricity distributor led SAPS effectively meet the needs of customers and communities?
- Question 7:** What types of customer engagement should take place to ensure prospective SAPS customers have been provided with sufficient information to understand the implications of moving to off-grid supply via SAPS? Note that the feedback we receive is likely to inform our tariff structure statement (TSS) proposals.
- Question 8:** Do you see a benefit in allowing electricity distributors to be able to offer customers innovative and flexible pricing arrangements / tariffs to maximise the value of SAPS investments for all customers?

2.5 ELECTRIC VEHICLE (EV) CHARGING

Electric vehicles (EVs) are an emerging technology across Australia and globally and are key to reducing carbon emissions from the transportation sector.

As the uptake of EVs increases over the coming years, EV charging infrastructure will become a critical service. Electricity distributors will have a central role to play in ensuring EV charging infrastructure is catered for through timely and efficient connection services and cost-reflective price signals.

2.5.1 The value proposition for EVs

There are a range of benefits associated with increased EV uptake, including lower running costs, reduced greenhouse gas emissions, reduced air and noise pollution and new economic opportunities.

Unlike the other technologies in this paper, EVs are one of the ways in which customers use a network service rather than a distinct service that networks provide to customers directly. This is similar to the uptake of air-conditioning across Australia during the early 2000s. Whilst electricity distributors did not install and provide air-conditioning units to customers the uptake of this technology had a significant impact on customer's demand for electricity. This required investment from networks to ensure that customers could connect and utilise air-conditioning units. Similarly, electricity distributors will not sell EVs or the energy required to charge them. Instead, we envisage we will have a role to play in ensuring the demand and consumption of electricity associated with EVs is met through the provision of existing or new electricity infrastructure.



Stakeholder feedback

Electricity distributors currently anticipate being an enabler of EV charging infrastructure through the existing role of providing distribution services. This means no change would be required to the classification of services we may provide. However, networks will still need to respond to changes in the needs of our customers and potentially new types of customer, such as the owners of public EV fast-charging infrastructure, in providing distribution services. Regulatory reform would require electricity distributors to take a more active role in promoting the uptake of EVs through owning, providing or contributing to the cost of EV charging infrastructure.

- Question 9:** Other than facilitating charging infrastructure, is there anything else electricity distributors can or should do as EV take-up rates increase?
- Question 10:** Can the AER's service classification approach contribute to an efficient recovery of network costs associated with EV charging?

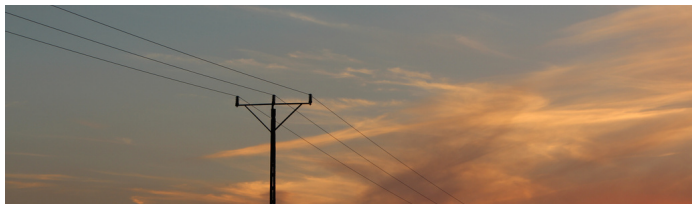
2.6 LEASING BATTERY CAPACITY

Grid-scale batteries are an emerging technology that can facilitate more renewables onto the grid, support security of the overall energy system, and put downward pressure on prices by providing energy during peak demand periods.

Electricity distributors can purchase storage services from others or own and operate a grid scale battery themselves. Regardless, what is most important is efficiency. If this is maximised by an electricity distributor owning a grid-scale battery, then the regulatory framework should support this option subject to AER oversight via an appropriately calibrated ring-fencing waiver notification process. This waiver process could include an 'efficiency test'.

2.6.1 The 'value stack' for a network owned grid scale battery

From a service perspective electricity distribution networks might invest in grid-scale batteries to deliver network services (the green box in the diagram below). For example, rather than increase the capacity in a part of the network to accommodate greater customer load, the network might install a battery, charge the battery during periods of low demand, and discharge the battery during period of high demand. In this way, the battery is effectively an input into the operation of the distribution network which provides the distribution service. Electricity distributors can own and operate batteries for this purpose. More information about what is an 'input' versus a 'service' is set out in section 1.2.



Network

Alternative to network upgrade to relieve a constraint



Customer

Local customer energy storage service



Market

Dispatch for NEM energy and/or ancillary markets

2.6.2 Spare capacity in network batteries can be utilised by third parties

Batteries can support the network during times of peak demand. At other times, there are likely to be moments when a network owned battery is not fully utilised. These periods of lower utilisation provide scope to lease out some of this excess capacity to a third party. That third party might in turn use that capacity to provide other services, for example a community energy service (grey box above) or a market service (blue box above). Importantly, the third party would be a legally separate entity e.g. it could be a smaller retailer seeking to compete with larger retail firms in the provision of a local customer storage service.

We recognise that some stakeholders may have concerns about electricity distributors leasing out battery capacity. This has also been reflected in the AER's draft amendments to its Ring-Fencing Guidelines. We have heard these concerns and our positions are summarised below.

Concern	Response
<p>Networks have significant market power which could be exercised in a way that harms competition</p>	<p>Where a third party owned battery is the most efficient option, networks are required and incentivised to select this option.</p> <p>Where network ownership of a battery is the most efficient option, leasing spare battery capacity still supports competition by giving smaller retailers and other parties access to utility storage.</p>
<p>There are no clear advantages to networks leasing spare community battery capacity, or offering storage services to customers.</p>	<p>Networks are experienced infrastructure providers with widespread staff, available 24/7, to provide maintenance services and respond in a timely manner to faults and emergencies.</p> <p>Community batteries can be safely accommodated within existing network assets and easements.</p>
<p>Distribution network customers should not pay for 'over-sizing'.</p>	<p>We agree that there must be a robust method for determining the network share of the costs so that customers who do not benefit from the community battery are not subsidising those who do. It is also unlikely that a battery would be required to support the network 24/7, which means there may be seasons or times of the day that spare capacity is available. Being able to lease out this capacity would offset some of the costs of providing the network service.</p>

Stakeholder feedback

Electricity distributors are currently not allowed to lease spare capacity in a grid-scale battery to third parties without a ring-fencing waiver. This is because the leasing of battery capacity is not currently regarded as a distribution service and is therefore not permitted under the AER's ring-fencing rules. The activity was not contemplated as a service at our last determinations, as the economic case for grid-scale batteries had yet to emerge. This demonstrates how quickly the industry is changing.

Question 11: Should the spare capacity of network-owned and operated batteries be offered to consumers and market participants in the 2024-29 regulatory period?

Question 12: If you consider that the leasing of battery spare capacity should be treated as a distribution service, should it be classified as a standard or alternative control service? See section 1.4 above for the factors the AER considers when making this determination (noting that these are the factors that drive the AER's decision making).

2.7 SMART PUBLIC LIGHTING

Electricity distributors currently provide public lighting services, with the exception of Evoenergy and Power and Water (NT). This service involves the operation, maintenance, repair and replacement of public lights, the alteration and relocation of existing lights and the provision and construction of new and emerging public lighting technology.

Typically, this service has been classified as a 'distribution service' given the placement of streetlights on power poles or on a stand-alone basis in parallel to network assets. It is then usually classified and regulated as an alternative control service with a cap placed on the maximum prices we can charge. This is because the costs associated with this service are attributable to an identifiable subset of customers, mostly local Councils. Whilst Councils can install private lights it has generally been more efficient for distribution networks to provide this service making use of their existing network infrastructure, technical capabilities, access rights and ability to provide 24/7 operation and maintenance services across an entire network area.

In addition to the AER's price regulation there are also State-based codes and regulations that require electricity distributors to provide public lighting services and specify the service standards a network must meet.

Public lighting services are priced on a component basis with separate tariffs available to cover the capital cost and ongoing maintenance costs associated with each available luminaire type. Where a customer funds the capital cost of lighting assets upfront, a maintenance charge is only applied.



The value proposition for smart public lighting

Over the last several years old public lighting technology has been replaced via reactive or bulk replacement programs with LED luminaire. LED technology has provided several benefits to customers including reduced energy consumption and CO₂ emissions, superior lighting performance and uniformity and reduced failures and maintenance requirements.

In addition to LED technology, several networks and customers have trialled 'smart' enabled luminaires (via an attached node) combined with Control Management Systems (CMS) that allow for addition remote monitoring and operation including:

- Record of status (on / off status of luminaire)
- Fault triggers (including overcurrent and tilt)
- GPS locational services (GPS self-reporting and monitoring)
- Energy usage / metering (currently unaccredited but testing is ongoing)
- Dimming and trimming of luminaires.

These functions will increase the benefits associated with LED luminaire. It is our understanding that these smart enabled lights (and columns) will form part of smart communities that provide a range of enhanced services.

Stakeholder feedback

Currently, the provision of emerging public lighting technology forms part of the public lighting service that networks provide. Electricity distributors often engage with customers and the AER to incorporate new luminaire types and technologies as they emerge within a regulatory period. We want to ensure we meet the expectations of customers within the current period but also ensure our service classification for the 2024-29 period reflects these expectations as well.

Question 13: What role should networks play in the provision of emerging public lighting technology?

Question 14: Are electricity distributors and/or the regulatory framework sufficiently flexible and adaptive in supporting emerging public lighting technology?

Question 15: How should electricity distributors engage with public lighting customers in order to meet their needs and expectations?



NSW/ACT/TAS/NT ELECTRICITY DISTRIBUTORS

Summary report

Online public forum on service classification

15 September 2021



INTRODUCTION

On Wednesday 15 September 2021, a group of six distribution network service providers from New South Wales, the Australian Capital Territory, Tasmania and the Northern Territory hosted an online public forum. The purpose of the forum was to engage with invited external stakeholders regarding the regulatory classification of distribution network services in the regulatory control period beginning on 1 July 2024 and ending 30 June 2029.

In addition to representatives of the distribution network businesses in question and officers from the Australian Energy Regulator (**AER**), the forum was attended by over 80 people, comprising representatives of the community sector, businesses, consumer advocates, customers and members of the electricity supply industry.

This report is a summary of the discussions that occurred as part of a series of topical Question and Answer sessions conducted during the course of the two-hour forum. It is not a verbatim record of the forum but a summary of the issues raised by forum attendees. The views and opinions expressed are those of the attendees and do not necessarily reflect the views of the participating network businesses in relation to the issues summarised here.

The stakeholder insights gathered during this forum, together with any subsequent written feedback submitted by participants, will be used by the participating network businesses to inform their requests to the AER for new or amended Framework and Approach papers for the 2024-29 regulatory control period.

The participating distribution networks would like to thank all of the stakeholders who attended this public forum for their time, their insights and their contributions to the discussion.

WELCOME

Sue Vercoe, Independent facilitator

Summary

Participants were advised that the stakeholder forum on the regulatory treatment of emerging energy services would be the first in a series of joint engagement exercises to be conducted over the next 18 months by the six distribution networks which between them service New South Wales, the Australian Capital Territory, Tasmania and the Northern Territory.

The six business are all on the same regulatory cycle and this stakeholder forum on the regulatory treatment of emerging energy services is a precursor to the first step in the AER's revenue setting process for each network, the publication of a Framework and Approach paper. The purpose of the public forum was to discuss the classification of the five emerging services discussed in the consultation paper provided to attendees in advance of the forum.

The following graphic illustrates the stakeholder forum's place in the revenue setting process for each network in the 2024-29 regulatory control period.

Figure 1. Revenue reset timeline



Participants were invited to lodge written submissions addressing the issues canvassed in the by the end of September, sent to the network business with which they have their primary relationship.

Presentation visuals from the forum were circulated to participants following the forum, followed by a Frequently Asked Questions document summarising the answers given by presenters and discussion panel members to questions from attendees during the forum's Question and Answer sessions, and responding to any questions that were unable to be fully addressed during the forum.

SESSION OVERVIEW AND SERVICE CLASSIFICATION

Rob Amphlett-Lewis, Ausgrid

Presentation summary

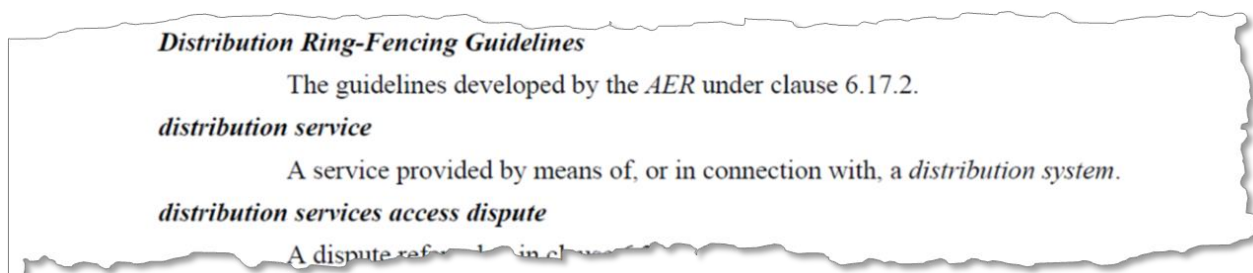
In the past, service classification was quite straightforward. The energy system had remained relatively stable for a long time and networks didn't need to change. But the energy system is no longer stable. We live in a world of incredible change, opportunities and challenges.

The value of an electron has fallen dramatically due to new technology while the value of capacity is increasing. Electricity networks are actively supporting change with trials of new technologies like community batteries and Stand Alone Power Systems, and translating the learnings from those trials into things that make a real difference for their customers.

Networks want to be active participants in that change and service classification is a key determinant of their ability to do so. Together, service classification and ring-fencing determine how emerging services are defined and the role networks can play in their delivery.

As noted by the AER, Framework and Approach papers and the classification of services may not attract a lot of stakeholder attention, service classification does affect the services that distribution networks provide and, therefore, the assets they invest in, which does attract the attention of stakeholders.

Figure 2. Key consideration – What is a distribution service?



Source: National Electricity Rules

The purpose of this forum is to have a conversation with stakeholders about what will constitute a distribution service in the future, based on the definition of a distribution service set out in the National Electricity Rules.

WHAT WE HEARD

The following table summarises the key messages articulated by stakeholders regarding the topics canvassed in the consultation paper distributed to attendees prior to the forum.

Topic	What we heard
Platform services	<ul style="list-style-type: none"> • The role of networks as trading platforms goes beyond the requirement for networks to provide services to customers. It will be an enabler of services provided by customers to networks. Networks will need to consider how those services are valued and procured, just as they currently formulate recovery of the cost of the services they provide to customers through network charges. • New trading models for services delivered by third parties across networks – such as peer-to-peer trading of energy – will require new mechanisms for network businesses to recover the cost of the network from the consumers of those services, whether that be directly from those end-users or through intermediaries other than retailers. • The recovery of network costs through network tariffs should be technologically neutral, and reflect load characteristics and network usage, not types of appliances. • The provision of services by networks ends at a customer’s connection point.
Stand Alone Power Systems	<ul style="list-style-type: none"> • There may be a lack of clarity within the wider community about the circumstances in which networks will be able to provide SAPS (i.e. to existing customers only, and only when it is economically efficient to do so). This can be seen in stakeholder concerns about the potential for networks to intrude on the competitive market for the provision of SAPS. • Customers need to be involved in the decision to install a SAPS on their property, including the choice of system, to ensure it meets their needs, now and in the future. • Customers with SAPS should be charged fair and equitable rates for their power, which are comparable with the prices paid by grid connected customers. • The performance of SAPS will be an important metric, and the interaction of SAPS with incentives (like the Service Target Performance Incentive Scheme) needs to be determined.
Leasing spare battery capacity	<ul style="list-style-type: none"> • The leasing of spare battery capacity should be a by-product of the deployment of grid-scale batteries for the purposes of providing network support, not the <i>raison d’être</i>. • Network customers should not pay for any battery capacity used by network businesses to provide non-network services (e.g. through inclusion of batteries in Regulatory Asset Bases, to the extent that they are utilised for anything other than network support).
Electric Vehicle Charging Infrastructure	<ul style="list-style-type: none"> • The expectation by networks that EV charging will be provided by the market on a competitive basis is consistent with stakeholder views. • The role for networks in relation to EV charging will be as the provider of platform services for widespread private AC slow charging, and connecting DC public fast charging sites. • The load characteristics of high voltage DC fast chargers may require a different response from networks to chargers distributed around the low voltage network. • Networks should apply tariffs based on the characteristics of a customer’s load rather than technology, meaning that the appliances in use behind the meter are

	not a consideration – it’s the load characteristics at a customer’s connection point that should matter at a network level.
Smart public lighting	<ul style="list-style-type: none"> • The provision of access to network infrastructure should not be limited in the future to the provision of public lighting if it is economically efficient for those assets to be applied to ‘smart city’ technology and services. • Multiple uses of network (shared) assets (e.g. for the provision of services such as public lighting, smart technologies and EV charging) avoids duplication and increases the utilisation of those assets, which has benefits for customers of the network, in the form of the revenue derived by networks from those services being used to offset the cost of the network for all users. • Stakeholders want the regulatory process for the introduction of new lighting types (and services) and the setting of ‘public lighting’ charges to be sufficiently responsive and flexible to keep up with the pace of technological change.

The following table summarises a number of themes that emerged during the forum in relation to the future role of distribution network businesses more generally.

Theme	What we heard
Nature of the export service	<ul style="list-style-type: none"> • The export of energy from households to the grid is not only a service provided by networks but a service provided to the network and to other customers. When considering the export of battery energy to the grid during the evening peak, which can help to alleviate network constraints, the exporting of energy is a service that should be rewarded. • The material presented to the forum regarding the advent of platform services implies a focus by the participating network businesses in their thinking about this issue on cost recovery [by networks], rather than recognition of the benefits from the export of energy and rewarding customers for the provision of network support.
Clarity on the evolution of network services	<ul style="list-style-type: none"> • A lack of clear direction in terms of the evolution of the role of distribution networks and the services they offer means that as new services and markets emerge they may compete for access to and control of assets behind the meter, to the detriment of networks and customers. • Clarity is needed about whether distribution networks are seeking to manage and optimise individual customers’ overall interaction with the power system or looking to influence customers’ use of individual assets behind the meter, such as battery storage.
Support for innovative services	<ul style="list-style-type: none"> • The provision of innovative services in the future by distribution networks should be supported if the provision of those services benefits all consumers by lowering their costs.
Networks as a trading platform / new trading models	<ul style="list-style-type: none"> • Generators would like to be able to lease the network to sell the energy they produce to another party or be able to sell energy directly to a specific customer, including for consumption on other properties owned by the generator. The existing open access regime, which sees the end users of energy pay for their use of the network, through a retailer, may not lend themselves to these new arrangements. • New energy trading models will require networks to change how they operate in order to accommodate these transactions, and there is a lot of demand for networks to do so.

Low voltage visibility	<ul style="list-style-type: none"> • Network visibility is going to become particularly crucial as the uptake of electric vehicles (EVs) grows, and networks are required to both support the roll-out of high voltage DC fast charging and upgrade the low voltage network in suburban settings to enable EV charging.
Technical standards	<ul style="list-style-type: none"> • Without appropriate technical standards in place, there may be distribution services that networks might not offer in the future, in scenarios where new devices or appliances are developed that customers want to adopt, but which networks may not want to be deployed because of the potential for their operation to have a detrimental impact on the power system.
Network tariffs	<ul style="list-style-type: none"> • Traditionally network tariffs have been aimed at types of equipment, but they should be aimed at types of load, because different appliances can have similar load characteristics and require similar network services, therefore imposing similar costs on the network.
Firm access and guaranteed service levels	<ul style="list-style-type: none"> • In relation to the services provided by distribution networks to enable the export of energy by customers, issues such as firm access and guaranteed service levels are important factors to keep in mind when considering the Framework and Approach applying to network businesses.

PLATFORM SERVICES

Alida Jansen van Vuuren, Ausgrid

Presentation summary

Networks are increasingly being used as trading platforms in a growing two-sided market. This means that, in the future, network businesses are going to need much greater visibility of their low voltage networks, along with new technologies to actively manage a much more dynamic distribution system, and get more out of existing assets and lower costs for all customers. This doesn't necessarily change the services being provided by distribution networks to customers, but it may change how they are provided.

One new service that has come from technological change and developed into a new market for distribution network businesses is export services. A recent decision¹ by the Australian Energy Market Commission (AEMC) has recognised that export services are something that distribution networks provide, and that the provision of the capacity to accept exports of energy by customers is something that should be regulated by the AER. However, the formal recognition of export services comes with corresponding obligations regarding minimum service levels, consumer protections, efficient service provision and equitable cost recovery.

For solar customers, apart from continued access to feed-in tariffs for any energy that they export, the rule change is aimed at enabling them to participate in markets and access new services through their grid connection. It also improves equity by making network capacity available to late-comers who invest in solar panels, not just early adopters on a first come, first served basis. For non-solar customers, it means that the cost of investments by networks to make export services available is recovered from the customers who use those services.

Q&A Topics

The following questions were put forward as a guide to the topics that the participating distribution networks were interested in exploring with stakeholders, but that their purpose was to promote discussion rather than constrain it to consideration of these particular issues.



- Do you consider platform services (DSO, customer exports) to be a 'distribution service'?
- What aspect of DSO (dynamic operating envelopes, system strength services etc.) would you like to know more about?
- What are your service expectations for electricity distributors providing export services? This could include export threshold of 'basic' and 'additional' services.

Discussion

The observation was made by a participant that the export of energy from households to the grid is not only a service provided by networks but a service provided to the network and to other customers. Therefore, when considering the export of battery energy to the grid during the evening peak, which can help to alleviate network constraints, the exporting of energy is a service that should be rewarded. It was suggested that the material presented to the forum regarding the advent of platform services implies a focus by the participating network businesses in their thinking about this issue on cost recovery [by networks], rather than recognition of the benefits from the export of energy and rewarding customers for the provision of network support.

¹ National electricity amendment (Access, Pricing and Incentive Arrangements for Distributed Energy Resources) Rule 2021, Australian Energy Market Commission, 12 August 2021

One stakeholder noted the risks posed by a lack of clear direction in terms of the evolution of the role of distribution networks and the services they offer. Without clarity about the services networks will provide to customers in the future and an agreed information technology framework to support the delivery of a more dynamic distribution system, the new services and markets that emerge may compete for access to and control of assets behind the meter, to the detriment of networks and customers. The question was asked whether distribution networks are seeking to manage and optimise individual customers' overall interaction with the power system or looking to influence customers' use of individual assets behind the meter, such as battery storage.

In response to this question, it was posited by the presenter that in considering their role in the future, distribution network businesses are focussing on the delivery of services to, or from, customers at their connection point with the network, rather than beyond the connection point, in order to optimise value at the connection point level.

One attendee supported the provision of "innovative export services" by distribution networks in the future if the provision of those services benefits all consumers by lowering their costs.

In the context of a network as a trading platform, another attendee asked whether it is envisaged that, in the future, generators might be able to lease the network to sell the energy they produce to another party or be able to sell energy directly to a specific customer, including for consumption on other properties owned by the generator (e.g. peer to peer trading).

It was noted by a member of the discussion panel that how the cost of the network is recovered and who pays for use of the network there is regulated and that under the current regulatory framework, networks charge retailers for their customers' use of the network. But it was also acknowledged that the retail market is likely to evolve significantly in the coming years and that network businesses are keen to ensure that the way in which they provide access to the network and how they price network services don't stand in the way of that innovation. The recent recognition in the National Electricity Rules of export services as a distribution service and the response of networks was presented as an example of the transformations that networks might be called on to make in the future to ensure the orderly uptake of new services by any customer that wants to, and ensure that the costs imposed on networks to provide new services are recovered from the beneficiaries of those services.

It was suggested that new energy trading models will require networks to change how they operate in order to accommodate these transactions, and that there is a lot of demand for networks to do so.

It was noted that the Consultation Paper discussed visibility of the low voltage network as an enabling factor for the provision of platform services. With this in mind, one participant opined that network visibility is going to become particularly crucial as the uptake of electric vehicles (**EVs**) grows, and networks are required to both support the roll-out of high voltage DC fast charging and upgrade the low voltage network in suburban settings to enable EV charging.

This section of the forum concluded with a discussion about the possibility that there might be distribution services that networks might not offer in the future. The issue was raised in the context of a scenario where new devices or appliances are developed that customers want to adopt, but which networks may not want to be deployed – at least without appropriate technical standards in place – because of the potential for their operation to have a detrimental impact on the power system.

It was observed that electric vehicle charging may present some of the challenges being alluded to by the participant and that the later segment on electric vehicle charging infrastructure would provide an opportunity to explore these issues further.

One participant observed that traditionally [network] tariffs have been aimed at types of equipment, but they should be aimed at types of load, because different appliances can have similar load characteristics and require similar network services [therefore imposing similar costs on the network].

The AER reminded participants in the forum that in relation to the services provided by distribution networks to enable the export of energy by customers, issues such as firm access and guaranteed service levels are important factors to keep in mind when considering the Framework and Approach applying to network businesses. The AER indicated that it will be looking to take these issues into account as part of its Framework and Approach consultation process and participants were encouraged to consider them when making written submissions.

STAND ALONE POWER SYSTEMS

Chantell Bramley, Essential Energy

Presentation summary

The falling cost of solar panels and batteries are making Stand Alone Power Systems (**SAPS**) more viable as an alternative to traditional poles and wires, both in terms of cost and reliability. Essential Energy has around 17 per cent of its network serving under 1 per cent of its customer base, and the significant costs of serving those customers, which are often located in remote areas, are being socialised across the entire customer base.

Many networks have been trialling SAPS, particularly for fringe-of-grid customers, to improve reliability and reduce costs for all of their customers, and are now looking to move from trials to more widespread deployment to realise those benefits. Those trials have also demonstrated that SAPS have applications for other use-cases, such as an emergency response tool, both for commercial and residential customers.

While there may be benefits that SAPS can bring to customers and communities, moving to a SAPS is a significant change for affected customers, who will require comfort regarding the level of reliability they will experience from a SAPS, and surety regarding things like cost and fault and emergency response.

Q&A Topics



- Do you consider SAPS to be a distribution service?
- What practical considerations (location, network need etc.) should be taken into account to ensure that network-led SAPS meet the needs of customers?
- How should networks engage with potential SAPS customers?

Discussion

In response to the question whether network-led SAPS will limit customer choice and prevent them from installing their own generation, storage etc., it was suggested that if a network does provide a SAPS to a customer, then ideally the customer would not invest in their own SAPS technology because that would effectively negate the benefit of the initial SAPS installation. Ideally, the rolling out of SAPS needs to be flexible, rather than a one-size-fits all approach, so that customers might be provided with a range of scaled SAPS solutions that cater for a variety of load profiles, as well as changing customer needs over time.

If SAPS were to be classified as a distribution service, one participant asked whether this would mean that generation services would also be provided by distributors – noting the current separation of generation from the distribution component of SAPS. In response, it was suggested that distribution businesses are looking to provide a one-stop service to customers [for whom SAPS are an efficient option], with the pricing of the service linked to the actual unit which is delivering the energy rather than a wholesale market price which isn't related to the energy being used by the customer.

Similarly, if SAPS were to become distribution services, the question was asked whether customers who are provided with a SAPS by a network would continue to have a relationship with a retailer, or the distributor would take over the direct relationship with the customer? In response, it was suggested that the relationship with a retailer for a customer with a SAPS is essentially a billing relationship, given that the generation is not being provided through the wholesale market. Distributors would prefer to see a simple pricing arrangement that reflects the cost of the unit and the way the unit is used, rather than the wholesale market. It was argued that there is no benefit in continuing the retailer arrangement in that instance. This is why consumer protections are important for distributor-led SAPS, to assure customers that their SAPS have been provided in an efficient manner, that the price

they pay is transparent and fair, and that the service they receive is providing benefits when compared to the alternative, that is, grid connection.

Another participant enquired whether the Service Target Performance Incentive Scheme (**STPIS**) framework for SAPS is to separate to or part of the broader STPIS framework? Further, if SAPS are likely to be installed for customers who have previously experienced lower levels of reliability from the network, and those customers then receive a better level of service from the SAPS, will that affect the STPIS rewards and penalties applied to the network business? In response, it was explained that the interaction of SAPS with the STPIS has not yet been resolved, but networks see SAPS being used to benefit reliability and this should help with assessments of network reliability in a traditional STPIS sense. The performance of SAPS will be an important metric to keep track of, and the interaction of SAPS with incentives needs to be considered in conjunction with things like the performance of distributors in supporting Distributed Energy Resources and exports.

It was noted by Ausgrid that the Independent Pricing and Regulatory Tribunal in NSW (**IPART**) recently reviewed the reliability standards that form part of Ausgrid's licence conditions. An outcome of that review is that SAPS are now incorporated as part of the networks' licence conditions, with IPART developing reliability standards for SAPS.

In relation to ring-fencing, one participant queried whether the provision of SAPS by distribution networks in circumstances where a community of two or three premises wants to have a SAPS would potentially be impeding the provision of SAPS by electrical contractors through a competitive market. In response, it was explained that even under the current regulatory framework there are no barriers preventing customers from taking themselves off-grid by installing a SAPS and having the competitive market service that, and networks are not trying to stop that.

The presenter posited that the roll-out of distributor-led SAPS will typically involve the proactive identification by networks of very high cost to serve customers, which provides networks with the ability to take those customers off-grid with a cheaper, more reliable solution in a way that benefits all customers. In some situations, customers taking themselves off-grid will not reduce the cost of providing the network, with the result that the contribution towards the cost of the network which was previously made by the customers who have gone off-grid will need to be recovered from the rest of the customer base.

Allowing distribution networks to supply SAPS is not about enabling them to compete in a market to supply SAPS. It's about permitting networks to proactively offer SAPS to [existing] customers where it is economically efficient to do so. Networks are not looking to be given cart blanche to take customers off grid and will only look to do so if it delivers overall benefits.

As a follow-on from that discussion, the question was asked whether customers identified by networks as candidates for a SAPS will be given the option of seeking alternative prices for the supply of the SAPS, and whether networks might only supply SAPS as a provider of last resort.

It was acknowledged that there are different service delivery models and different pricing structures for the provision of SAPS by distributors. For example, one option might be for networks to offer customers a credit to take themselves off-grid, as an alternative to the network supplying the customer with a SAPS as part of a one-stop shop solution. It was suggested that different solutions will appeal to different customers, and many customers would be daunted by the prospect of organising their own departure from the grid. It will be important, therefore, for networks to offer SAPS in a way that is customer friendly, and helps deliver the benefits of SAPS. It was suggested that this will never prevent customers from making their own choices to deploy these sorts of technologies where it makes sense for them to do so.

The panel was asked whether it is intended that the same regulatory framework be applied to SAPS servicing a number of properties as a SAPS serving a single property? In response, it was suggested that while, in the foreseeable future, distribution networks are likely to be focussed on SAPS for single sites rather than SAPS serving multiple customers, applying a common regulatory framework across the spectrum of SAPS, ranging from single

site systems to microgrids, would be preferable. It was agreed that from a regulatory perspective, distributor-led SAPS should not be defined as serving single customers only.

The panel was asked what the process will be to maintain 'market tension', to ensure that customers with SAPS are paying a fair and equitable rate for their power which is comparable to the prices paid by grid connected customers? And in terms of consumer choice, it was asked whether the design of SAPS run by a distribution network limit the ability of customers to install behind the meter solar generation?

Networks are suggesting that the regulator's involvement with the delivery of SAPS by distributors should provide customers with assurance that the provision of SAPS is efficient, and that the deal is a good one for customers. It was acknowledged that a significant fall in the wholesale price of energy may diminish the viability of SAPS, but the cost of delivering SAPS is falling and well understood. Hopefully, the installation of SAPS by DNSPs will ensure that the systems provided are fit for purpose, which will negate the need for customers to do that themselves.

Other feedback from participants included the following comments:

- There needs to be flexibility and choice for consumers who are potentially going to be offered a distributor led SAPS.
- SAPS are a distribution service, given the "connection" definition. The challenge/issue is that, unlike traditional distribution services, SAPS are not a natural monopoly.
- Introducing SAPS can provide benefits for all networks consumers (those with and without SAPS).
- There should be a default incentive/rebate to consumers to procure their own SAPS.
- Recognising that there are benefits in DNSP procured SAPS, what additional regulation and transparency is needed in relation to SAPS procurement, above and beyond whatever is typically used for DNSP procurement?

LEASING SPARE BATTERY CAPACITY

Alex McPherson, Ausgrid

Presentation summary

It's easy to conflate assets with the services they provide, and in relation to community batteries, networks are trying to focus on the services that can be provided using community batteries, rather than the assets themselves.

The benefits of community batteries are not limited to customers with solar generation, and community batteries can offer alternatives to traditional investments in poles and wires by networks. The challenge for networks is that community batteries can be an expensive means of solving network constraints and their use often doesn't stack up purely on the basis of providing traditional network services.

This has led networks to consider how they can unlock the value potentially provided by community batteries to others. Under the current regulatory framework, however, without a ring-fencing waiver distribution businesses are not able to provide many of the services which might unlock that additional value and make the use of batteries more viable for networks.

Alternatively, networks could make battery capacity available to third parties who can provide those services. The question is, should the leasing of spare battery capacity be considered a distribution service? Currently the leasing of battery capacity is not a distribution service, although with community batteries being a relatively new concept in Australia it hasn't really been considered and, therefore, defaults to being a service that DNSPs can't provide without a ring-fencing waiver.

The AER noted that it is still working through the ring-fencing process and expects a decision in November 2021. Community batteries are still a new concept and a range of alternative models for the provision of grid-scale batteries are emerging, including the deployment of batteries by third parties who might sell services back to networks, which need to be understood. The AER is working through stakeholder questions about DNSP involvement with the provision of community batteries and its impact on competition and cross-subsidies.

Q&A Topics



- Do you consider leasing spare battery capacity in network owned storage to be a distribution service?
- What are the minimum requirements (e.g. efficiency test) for a ring fencing waiver allowing an electricity distributor to lease out spare capacity in a network owned battery?
- If an efficiency test is introduced, then should it reflect the 'RIT-D' test, i.e. maximising net economic benefit to all those who produce, consume and transport electricity?

Discussion

The question was asked whether the classification of community batteries as a distribution service would result in the inclusion of the entire value of community batteries in distribution networks' Regulatory Asset Bases (RABs) – not just the proportion of the battery's capacity being used by the network – and whether this might crowd-out parties other than DNSPs from providing batteries.

In response, it was noted that distribution businesses already include as part of their RABs 'shared assets', which provide distribution services but are also used by third parties, such as telecommunications businesses. Some of the revenue earned by networks from the use of those shared assets by third parties has to be returned to network customers, who effectively funded the assets in the first instance.

The allocation of cost between competing uses is made complex because it would depend on how the batteries are used and contractual arrangements with other parties, and those arrangements are not always clear-cut or static over time. Networks can currently pursue the leasing of spare battery capacity, but under the regulatory framework as it currently stands, networks need to apply to the AER for a ring-fencing waiver in relation to every battery, which is a costly, time-consuming and uncertain process.

If the leasing of battery capacity were to be classified as a distribution service, networks would no longer need to seek a ring-fencing waiver and could make decisions to invest in batteries taking into account the benefits that might accrue to customers of the network from the use of community batteries by third parties. The regulatory requirements regarding ring-fencing more generally and cost allocation by network businesses would still apply, however, meaning that the leasing of spare battery capacity by networks would still be subject to regulatory oversight.

It was noted that the classification of community batteries as a distribution service involves some subtleties. For example, the facilitation of access to battery capacity might be a standard control service, but the actual sharing of that capacity might be an unregulated distribution service, as is currently the case for pole rental. These are some of the issues that networks are still working through with the AER in relation to community batteries.

One participant sought clarification of whether networks are seeking to be able to size grid-scale batteries in order to provide additional services and generate income through leasing rather than just the capacity needed for network support services.

In response, the question was asked by a panel member whether, if a network owns a battery which is used to provide network support on ten occasions a year, that spare capacity should be made available to a third party. It was suggested that network businesses should be able to size batteries as they want, but that the asset value going into the RAB should be limited to the extent that a battery is providing network support and services to customers. Distribution customers should not be funding over-sized batteries or unregulated commercial opportunities for networks businesses, and should only pay for the distribution services they are receiving.

One participant asked why SAPS are not ring-fenced but community batteries are. It was explained that distribution led SAPS are effectively providing a network substitution service, which includes elements that are akin to the reticulation (standard control network services) provided to network connected customers. The generation component of a SAPS is different, however, and currently subject to ring-fencing, much like the non-network services potentially provided by batteries. But it is currently proposed that there should be a ring-fencing exemption for networks to provide generation as part of SAPS in circumstances where it makes economic sense for them to do so.

It was noted that the installation of SAPS by networks frequently involves third party providers, when market providers are able to provide SAPS at a lower cost than the network business, but that procuring maintenance, emergency and fault response services – and services which match the response times and availability provided by network business – has provided difficult.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE AND SMART PUBLIC LIGHTING

Patrick Duffy, Endeavour Energy

Presentation summary

Electric vehicle (**EV**) take-up in Australia to date has been lagging behind many other countries. However, an increase in sales is expected as the range of EVs on sale in Australia increases, the prices of EVs reduce, and state governments introduce a range of stimulus measures such as stamp duty concessions on EV purchases and funding for public fast-charging infrastructure. What is unclear from a network perspective is who is going to be responsible for installing, owning and operating public EV charging.

The expectation of distribution networks is that EV charging will be provided by the market on a competitive basis. But while networks may not be involved as providers of EV charging, EV load represents a material change in the use of networks and a new source of demand which may require networks to add capacity.

Network responses to growth in EV charging may not require a change in service classification, but it may involve revisions to connection policies, new pricing signals and network tariffs to encourage optimal use of the network, and expenditure on hosting capacity. Networks may also be called on to provide third parties with access to their assets – such as land, easements, poles and distribution sub-stations – to host charging infrastructure. Consistent with the principle espoused by a stakeholder earlier in this forum that networks should apply tariffs based on the characteristics of a customer's load rather than technology, the load characteristics of high voltage DC fast chargers may require a different response from networks to chargers distributed around the low voltage network.

Like EVs, public lighting is another space where new technologies are emerging. In recent years councils have been transitioning to LED lighting technology, as a means of reducing their costs, reducing greenhouse gas emissions and improving lighting quality. Currently, networks set their public lighting prices every five years as part of the regulatory determination process, but new lighting technology inevitably emerges within regulatory control periods that was not envisaged during the determination process.

When that happens, networks have to engage with the AER in order to introduce those new lighting types and identify the type of lighting fixture currently on offer that the new technology most closely resembles, in order to determine the pricing that will apply to the new technology for the remainder of the regulatory period. Some stakeholders are questioning whether this process is flexible enough to keep up with the pace of technological change – which is likely to gather momentum with the emergence of smart nodes that can attach to public lighting fixtures, offering new functionalities that councils and other third parties might be interested in, such as remote dimming, self-reporting of outages, vehicle and pedestrian count monitoring.

The demand for some of these new capabilities has been such that rather than wait for the regulatory framework to catch up, some networks have seen councils erect new support structures for public lighting beside existing distribution assets with lighting fixtures mounted on them, effectively duplicating the network's infrastructure.

From a service classification perspective, there is a broader question as to whether networks are best placed to provide public lighting services in the future, including emerging smart public lighting technology and services. Not all distribution networks provide public lighting, but those that do want to understand what services their customers want, the pace of new technology roll-out their customers want, how things like smart nodes should be priced, and how they can do a better job of meeting the needs of their public lighting customers.

Q&A Topics



- What role should networks play in facilitating EV charging infrastructure?
- What role should networks play in the provision of emerging public lighting technology?
- How is your position informed by the meaning of a 'distribution service' in the national electricity rules?

Discussion

It was suggested by one stakeholder that there is an additional benefit of EVs not mentioned in the presentation material, which is that EVs – probably more so than any other technology – offer a big opportunity to meaningfully improve the utilisation of network infrastructure, which is a net benefit to all consumers. On that basis, a lot of utilities overseas, particularly in the United States, have incentivised EV programmes. So, in answer to the question about the role that networks should play in facilitating EV charging infrastructure, it was argued that networks in Australia should play an aggressive role in facilitating EV infrastructure. The issue of how those benefits might be incorporated into an expenditure [regulatory] proposal was put to the discussion panel.

It was noted by the panel that in addition to supporting increased utilisation of the network when charging, EVs [those with Vehicle to Grid capability] can also be used as batteries to provide network support. For network businesses there are questions to be answered about the use of appliance based tariffs versus load based pricing signals, which might be used to provide locational signals to encourage EV charging, or the provision of network support, in particular areas of their networks. It was also noted that the Energy Security Board (**ESB**) has recommended flexible trading relationships, which might involve individual customers engaging with multiple retailers for the same premises offering appliance-based tariffs that may appeal to customers who want more dynamic, or different pricing signals to apply to their EV charging.

The Electric Vehicle Council (**EVC**) indicated that it expects AC charging at home to account for the bulk of the energy consumed for EV charging, meaning that there will not be much need for network involvement at a tactical level in relation to the installation of charging infrastructure. However, in the long term there is likely to be an impact on network RABs to the extent that EV charging is not orchestrated or scheduled to avoid coinciding with peak demand. The expectation is that there is likely to be a role for networks as the provider of platform services in relation to private AC slow charging.

In relation to DC public fast charging, the EVC indicated that the EV industry has two key pain points. The first relates to the time it takes to get new or upgraded connections executed, and better visibility of the 11kV and 22kV networks may help DNSPs accelerate those processes. The other concern relates to the application of peak demand charges to high power connections and the EVC proposed that the operators of these charging facilities should not be subject to granular cost reflectivity because they are providing a general social good.

The panel concurred that the delineation between DC fast charging and AC slow charging makes sense from a network perspective, given the different demands they each potentially place on networks. The panel also accepted the importance of avoiding a new peak in demand as the result of un-orchestrated EV charging. Whether demand charging is applied to the peaky loads associated with public fast charging is an issue that will be considered by networks as part of their Tariff Structure Statement development processes for the coming regulatory control period. It was suggested that the argument about the provision by public fast chargers of a social good and its impact on networks' obligations to apply cost-reflective network charging is more an issue of public policy that rests with government.

It was acknowledged by several stakeholders that EV charging loads demonstrate the importance of networks considering load characteristics rather than appliances when designing their tariffs, because EV charging load may present itself via a dedicated EV charger (whether at a home or in a public place) or via power drawn from a

standard power outlet in a home, which makes it difficult to apply a specific tariff. Other stakeholders supported the application of cost reflective network tariffs specifically to dedicated DC fast charging facilities.

A number of stakeholders observed that EV charging does not pose any issues relating to the classification of network services, unless distribution networks are looking to own charging infrastructure.

One stakeholder encouraged networks to broaden their discussions regarding public lighting technology to include smart cities, an emerging topic of growing importance, because network assets will provide perfect infrastructure for the deployment of smart cities sensors in the future. The panel canvassed the potential for networks to offer a pole access regime to third parties wanting to deploy smart cities technology, but noted that there is an ongoing discussion to be had about the role of networks in this space.

Another stakeholder highlighted the opportunity to replace existing infrastructure with multi-function poles that have both LED lighting and EV charging capabilities, and the potential for this to minimise infrastructure costs and network complexity.

One stakeholder asked about the impact that a transition to autonomous vehicles, with their reliance on 5G telecommunications and other technology that might ideally be hosted by distribution networks, is going to have on network businesses, and what the implications might be in terms of networks' reliability obligations and the investment needed to meet those obligations, given the impact that power outages would have for transportation and public safety. The panel acknowledged that this is a broad issue and that networks would be keen to get stakeholders views about the services that networks might be asked to provide in relation to the technology needed to support vehicle autonomy.

APPENDIX A: ON NOTICE QUESTIONS

There were a number of questions posed during the meeting in the meeting comments that were unable to be addressed during the forum. The networks advised participants that a response would be provided in writing to these on notice questions. These questions and responses are outlined below.

Platform services

Would this allow sale of export of energy to specific customers. i.e. can the generator lease the network to sell energy to another party ?

This is partly already happening as retailers (as customers' agents) can enter into a Power Purchase Agreement (PPA) with specific generators. This is, for example, how retailers can claim that they are providing customers with 100% renewable energy. However, these agents do not lease specific parts of the network, but rather pay general network service tariffs for access to the shared network. There are networks considering trials of "local use of system" network tariffs that are more cognisant of the part of the network that is being used to transfer energy.

Does this also need to have a conversation around exclusions - what services you will not offer / allow?

Yes, service levels would need to be clearly defined and articulated to customers, including exclusions. Also, this is a key part of service classification considerations as any service that is not specifically classified as a distribution service would be considered services that a distribution business cannot provide unless it obtains a ring-fencing waiver.

If innovative export services benefit all consumers by lowering their costs, why would a DNSP not pursue it with the AER's blessing?

Until recently export services were not classified as distribution services which prevented DNSPs from explicitly including this in the planning of the network. Recent changes to the Rules, however, have specifically included this as service, with DNSPs now looking to work collaboratively with all stakeholders to develop innovative export services which benefit all customers and are compliant with the regulatory framework that the AER enforces.

Agree with the point around considering the load rather than the equipment. In EV charging, the load may present via a dedicated EV charger (in home or in public) but might also present via a standard household power point. Understanding consumer behaviour will be key.

The AER's pricing principles requires network tariffs to be technology agnostic, which means DNSPs do consider "load" rather than "equipment". However, as suggested, understanding customer behaviour and response to tariffs based on the technology in their homes are key to designing effective network tariffs.

SAPS

Do SAPS limit the choices available to customers they serve as to their future sustainable power choices?

DNSPs are primarily focussed on asset elements on the network side of the connection point and ensuring a safe, resilient and reliable power supply to all customers. DNSP-led SAPS can provide an alternative to a grid connection. Therefore, DNSPs will continue the aspect of having responsibility for the DNSP-led SAPS supply side of the connection point, with any customer-side integration, load management or electrical installation quality needing to be considerate of this fact. This may offer additional sustainable power choices to customers.

As SAPS will be sized to fit the customers energy needs, there may be opportunities for the customer to reduce energy usage. Typically, the costs of energy efficiency measures will be much lower than sizing the systems to meet the avoided energy requirements. Importantly this can reduce the electricity costs for the

customer and also the upfront and ongoing costs to operate the SAPS system. Energy Efficiency opportunities are to be investigated and discussed with the customer.

Load shifting can also significantly reduce the size, capital cost and operating costs of SAPS. Load shifting is achieved by moving loads to times when there is a high availability of renewable resources, or alternatively, by increasing the load diversity to reduce peak demand requirements. Strategies to achieve load shifting can include agreed customer behavioural changes, incentivisation (e.g. through specific tariffs structures) or via direct means (e.g. timed or controlled loads).

Will customers participating in SAPs be able to invest in behind the meter solar etc to the same extent as grid-network customers? Or does the inherent design of the SAP provide inbuilt limitations here?

The SAPS supply must consider that property owners and electrical loads will change. However, In the near term DNSPs are unlikely to target customers who already have or will soon install their own behind the meter installation. As such, some limitations are likely to apply. This is because from a technical perspective, different technology types or solutions may add complexities for operation and maintenance activities for service providers. Ideally, the SAPS operation and inverter systems must be synchronous, and comply with the same standards and warranties as the entire SAPS "integrated solution" which helps in drive efficiencies across the system.

At a future date there is the potential to integrate customers grid system installations into the SAPS integrated solution, and potentially use the customers' investments to offset some of their network tariffs, however this work can only be contemplated when the SAPS market reaches a level of maturity.

As someone who has built and installed my own SAPS there needs to be flexibility and choice for consumers who are potentially going to be offered a distributor led SAPS

Agreed – we are looking to provide a suite of options to meet different customer types and their needs, including pricing and load shifting activities.

A few comments and a question. I think SAPS are a distribution service given the "connection" definition. I think the challenge/issue is that unlike traditional distribution services (including export) SAPS are not a natural monopoly. With that said, introducing SAPS can provide benefits for all network consumers (those with and without SAPS).

SAPS can be provided by the competitive market and networks will be using this market to build and install the SAPS.

Communication materials shared with customers would need to make it clear that customers do have a choice to use a third party and what the benefits and risks of both options are. Networks could pay customers to leave as well.

Given that -- I do think there should be a default incentive/rebate to consumers to procure their own SAPS. I still recognize benefit of DNSP procured SAPS, so my question is -- what additional regulation and transparency do you think is necessary on SAPS procurement above and beyond whatever is typically used for DNSP procurement?

Yes, we would pay customers to leave the network where we are directing the off-grid move, but not where a customer wants to move of their own accord. The ring-fencing cap will help build the market and the AER is deriving incentives schemes and reporting measures.

Leasing battery capacity

No on notice questions.

EVs and smart lighting

EVs provide another benefit than those listed: they offer opportunity to significantly increase energy throughput on existing network infrastructure, which -- if off peak -- could meaningfully lower the per kWh cost of network infrastructure. Is it possible for DNSPs to offer incentives to EV infrastructure providers or owners given the potential benefits to all network customers? If so, how?

Whilst EVs are unlikely to have any service classification implications, they will have implications for other aspects of regulatory proposals. The question of incentives for EV infrastructure providers will likely be relevant to discussions on Tariff structures. We are therefore interested in receiving feedback on the potential costs and benefits of EV charging on electricity networks and how these costs and benefits should be allocated between electricity customers. Noting our tariff structures are governed by the National Electricity Rules and broader societal benefits are likely to be a more relevant matter for policymakers.

EV are a discretionary load that can assist network constraints when export is occurring e.g. platform services etc – when it comes to fast charging an active program to work with Councils in particular to identify where there is Capacity available for fast charging would be a valuable information sharing exercise. Peak capacity charges might be addressed through allowing network interaction with dynamic load control

We are interested in feedback on how existing tariffs impact EV charging and whether changes are required to provide a more efficient and/or equitable signal for how the electricity network should be utilised by EV charging providers and EV owners. We are also interested in initiatives EV charging infrastructure owners may be able to implement to manage network price signals.

I don't see any implications from EVs for networks in regard to service classification. Am I missing something?

Subject to feedback that is our preliminary view as well. We consider EV's to be an emerging technology rather than an emerging service that networks provide. We anticipate that there will be more interest in how networks plan to accommodate and support the take-up of EVs and EV charging infrastructure across their networks. The impacts of EVs across networks will vary but it may require review of connection policies, provision of access to third parties, expenditure plans and tariffs.

Are the DNSPs finding that the world wide shortage of chips impacting the roll-out of smart lighting at this point? Also, Endeavour is assisting in replacing the older lights with LED technology currently with offers to various Councils, worth mentioning.

As we are not currently providing smart lighting services, so we are not impacted by supply shortages. On the latter, Endeavour Energy (as well as other networks) is currently engaging with Councils on supporting their transition to LED technology. In these discussions it is clear that providing the option for lights to be upgraded to 'smart lights' in the future is of interest to customers (i.e. providing a space for a smart node to be connected). We are interested in feedback from Councils on what their expectations are for the transition to LED lighting and what role networks should play in the rollout of smart nodes / lights.

Further to [named removed] point. Playing a facilitating role sounds right, but would note that it is a very important facilitator role. At risk of getting caught up in the semantics, I would recommend addressing this as playing a leading role to facilitate EV charging, rather than 'just' or only facilitating.

We agree and do not wish to understate the importance of our 'facilitation' role. The deployment of fast charging infrastructure is a critical enabler of accelerating the rollout of EVs across Australia. We welcome additional discussions on the steps networks and EV charging providers should be taking to support EV take-up in a timely and efficient manner.

Is there consideration of EV, Smart lighting etc impact on small business costs re infrastructure, supply, demand on power etc?

Networks monitor and forecast energy consumption and demand at various levels of the network in developing expenditure forecasts. For instance, for a new housing development networks forecast the load requirements based on the expected split of residential and business customers and the typical usage and diversified demand profiles of these customer types.

On an individual basis, as part of preparing more detailed expenditure forecasts for the next regulatory period, networks will need to prepare these forecasts in developing their expenditure plans. The AER (and stakeholders depending on individual engagement activities) will review these forecasts and planning inputs to test the extent to which they reflect likely customer behaviour in the future. The take-up of solar panels, EVs, batteries and other emerging technologies will be a key consideration in developing accurate forecasts and expenditure programs.

Just a quick point in respect of [named removed] comments about DC fast charging, tariffs and service classification. Worth noting that [name removed] views are one perspective and that there are diametrically opposed views among other market participants - particularly those in the traditional fuel industry, who are investing in diversification of the service station forecourts to accommodate DC fast charging. From the perspectives of these participants, the issues relate to sustainability of tariffs (issue was discussed by the Queensland Government in some detail at a forum yesterday, with suggestions that there is a need to potentially establish a separate, cost reflective tariff for DC fast charging).

Agreed that it is important to obtain a variety of customer perspectives on this issue and welcome additional feedback. Each network, either individually and/or collectively, will be engaging further on their tariff structures for the forthcoming period (FY25-29 for this group of networks). This should provide an opportunity to discuss further what (or if any) specific tariffs are suitable and equitable for EV fast charging infrastructure. Noting the tariff discussion is separate from any connection charges which may or may not apply to connecting EV fast chargers to the network.

Duly noted, we'd acknowledge it's not a settled area of policy. We're essentially laying out a point of view and looking to be involved in the discussion with the many stakeholders working through it.

We are interested in any suggestions for how to best engage on this specific issue going forward. We would expect the treatment of EV fast charging to be a key matter of interest as part of any future tariff related engagement.

What does all of this discussion have to do with service classifications – unless networks want to own charging infrastructure, in which case let's talk about that!

Agreed that this does not appear to be a service classification issue. Instead, this topic will have implications for other aspects of regulatory proposals.

Seems worth including scope to double down on lighting replacement opportunities, e.g. Multi-Function Poles that have LED lighting and EV Charging capability. This could minimise infrastructure costs and network complexity in terms of poles/wires etc

'Smart poles' are an emerging technology which could host multiple services (public lighting and EV charging being two primary examples). We are interested in receiving feedback on whether networks should; provide 'smart poles', provide access to poles to host these devices/add-ons, or whether these poles should be separately metered supplies that are owned by Councils.

Vehicle Autonomy - this was raised in a Smart Cities discussion that I was part of. The question was asked regarding the interrelation of smart lighting (DNSP assets and vehicle autonomy technologies) - is there a consideration into the reliability (power supply & lack of interruption of power) for 5G to maintain integrity of autonomy services?

The AER is now (previously AEMO) responsible for estimating the Value of Customer Reliability (VCR) and value of Widespread and Long Duration Outages (WALDO). The latter is not a prescribed value but rather a methodology networks can employ to value the broader economic impacts of high consequence, low probability outages.

These are planning assumptions that networks use to justify and value expenditure proposals. The AER established VCR estimates in December 2019 and must review these values every 5 years. Vehicle autonomy may factor into future VCR reviews noting networks can choose to rely on alternative valuation methods as part of their regulatory proposals. Networks may also need to consider safety related expenditure programs for relocating poles which are in high risk positions (for instance car accident hot spots).

It's not immediately clear to me there's a difference between public lighting and public EV charging ... if networks are allowed to provide the first, why not the second?

Under the NSW Public Lighting Code (similar arrangements exist in some other, but not all, jurisdictions) networks are responsible for providing public lighting infrastructure. In the absence of equivalent obligations the provision of EV charging infrastructure will remain a competitively provided service. In which case the AER are unlikely to be in a position to regulate EV charging on a similar basis (given monopoly characteristics are a key determinant of service classification).

It may be a matter for jurisdictional regulators and governments to assess whether networks have a prescribed role or responsibility in the provision of public EV charging infrastructure.

