



12 October 2018

Mr John Pierce
Chair
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Mr Pierce

EMO0037 – Essential Energy submission on the issues paper - Review of the regulatory frameworks for stand-alone power systems

Thank you for the opportunity to provide a submission to the Australian Energy Market Commission's (AEMC) issues paper published on 11 September as part of the Review of the regulatory frameworks for stand-alone power systems (the review).

Context – our network

Essential Energy's response to this issues paper is inevitably informed by the physical characteristics of our network and the challenges they present. Essential Energy has the lowest customer density in the NEM at just 4.6 customers per kilometre of powerline. Our longest length of powerline is 1,905 kilometres, this line services just 335 customers. We also manage significant bushfire risks in our service areas. One million spans of our network are in designated bushfire zones and vegetation management is our single biggest operating expense.

The geographic spread of our network and demographics of the communities we serve sets Essential Energy apart from other electricity distributors. Essential Energy has about one third the number of customers per kilometre of powerline compared to the average customer density across the National Electricity Market.

A distribution network with a low customer density requires more poles and wires to reach customers than other networks with a higher customer density. This significantly impacts the cost to serve our customers. Relatively sparsely populated networks also provide significant challenges for achieving reliability and service quality targets.

We also serve more densely populated regional centres across NSW and are a key stakeholder in the NSW government focus on facilitating regional growth and development. We have a diverse service territory and a wide range of customers who cost us very different amounts to reliably supply them with energy. Under "postage stamp" pricing our customers in Tamworth pay the same network charges as those in Tibooburra.

Given these features of our network, Essential Energy sees stand-alone power systems (SAPS) and similar solutions as an opportunity to both improve the reliability and quality of service for our higher cost-to-serve customers as well as reducing costs and therefore bills for all our customers.

Essential Energy agrees with the Commission's conclusion that in certain circumstances it may be cheaper to provide off-grid supply than to maintain and replace long power lines linking remote customers to the national grid. The scope for savings through providing off-grid supply to some customers will also grow as the costs of solar panels, batteries and other technologies continue to

decline. We also agree that moving to off-grid supply can provide additional benefits such as improved reliability outcomes for some customers, reduced maintenance costs and reduced bushfire risk.

Initial internal modelling suggests that over the next 10 years SAPS are likely to be used as the lowest cost serve technology for over 2,000 of our customers. Over the SAPS lifecycle Essential Energy forecasts just over \$150 million in avoided capital expenditure and a total reduction in operating expenditure of over \$70 million.¹ Overall, taking into account the estimated capital costs of SAPS, the potential net savings to Essential Energy (that is avoided network spending minus the capital costs of the SAPS) are estimated to be over \$120 million over 20 years.

In addition to avoided network expenditure the use of SAPS in certain areas can provide savings in the form of reduced risks. The deployment of SAPS is also estimated to provide over \$1 million in savings per year in reduced bushfire risk. This amounts to over \$20 million over 20 years.

DNSPs are best place to transition customers to off-grid supply

The benefits of moving a customer or group of customers off-grid will be maximised when this decision is made in accordance with planned network investment (both replacement or augmentation expenditure). This planned approach would reduce the risk of stranded assets or unnecessary investment in network infrastructure. This planned approach is best carried out by the distribution network.

In addition, planned SAPS rollout by a distribution network will ensure the viability of the network is maintained into the future, where it makes sense to do so. This is because a DNSP has an incentive to remove customers that are the costliest to serve from the network. Other parties have the incentive to set up a SAPS with customers that represent the greatest value to them, which may result in higher costs for customers that remain connected to the grid.

Attached is Essential Energy's responses to the questions posed by the Commission in the issues paper. Throughout the response Essential Energy has made a clear distinction between existing customers of the DNSP and new customers who wish to connect to the network.

For the avoidance of doubt, an existing customer of a DNSP that is transitioned to off-grid supply has the following characteristics:

- The DNSP has identified the customer as one that should be moved to a SAPS.
- The decision by the DNSP is motivated by the fact that total network costs would be reduced by moving these customers to off-grid supply.
- After the transition to off-grid supply the customer would continue to be a customer of the DNSP. Therefore, the SAPS would be providing a distribution service and should be included in the DNSP's regulated asset base (RAB).
- The DNSP would provide the customer with the SAPS, just as it would any network asset, and would continue to operate and maintain the SAPS.

This model represents what is termed "DNSP-led" deployment of SAPS and would deliver considerable benefits to our customers.

Firstly, the DNSP would identify the customers to be moved off grid but would engage extensively on the issue and provide the customers with the assets required to establish the SAPS as a regulated service. The SAPS would not be an upfront cost to the customer, but the costs of the assets would be recovered in the same way as any other network asset. The avoidance of the upfront capital cost removes a significant barrier to customer acceptance of the system. The current regulatory framework can accommodate a decision to invest in a SAPS and provides confidence and certainty that the decision is efficient and in the best interests of consumers. The costs of these systems would be monitored by the normal AER processes alleviating concerns about delivering affordable services for off-grid customers.

¹ These figures are based on reasonable expectations of reductions in the costs of stand-alone power systems over the next 3-4 years as a result of the industry becoming more mature. SAPS analysis lifecycle taken as 20 years. The savings figures are given in 2019 dollar terms. Decommissioning costs, if any are not included.

Second, DNSP-led rollout of SAPS for high cost-to-serve customers is unlikely to unduly hinder the development of a competitive market for SAPS. This is because the areas the DNSP identifies as suitable for transition to off-grid supply are likely to be areas where competition is not likely to develop because of distance, sparse population and lack of an existing local presence. The DNSP already has a local presence and workforce in these areas and it is likely that the DNSP can perform ongoing maintenance and other services required on a more cost-effective basis. The DNSP is already a trusted provider of service and maintenance of electrical infrastructure. The customer experience would be better under a DNSP-led model as there would be fewer parties involved, limiting risks of poor performance or service.

Finally, DNSPs are accountable for reliability outcomes which places a strong incentive on them to deliver the same standard of service to customers regardless of whether their supply is on- or off-grid. These same incentives may not apply to third party providers which may lead to worse outcomes for customers. Any reductions in reliability, which in some areas suitable for SAPS may already be quite low, would undermine stakeholder acceptance of the technology.

The above discussion relates to existing DNSP customers, Essential Energy also considers how new customers should be treated in this submission. A new customer is one which has no previous relationship with the DNSP. These customers have the following characteristics:

- The customer is not currently connected to the DNSP's network.
- The customer may request an offer to connect to the DNSP. The DNSP would respond with the full capital costs associated with the connection, which the customer would be required to pay.
- The new customer would have the choice of:
 - Paying to connect to the network.
 - Paying to procure a SAPS solution. This customer should be able to procure this solution through the competitive market.
 - The DNSP may provide the SAPS but in this case, it would be doing so as a competitive provider. The SAPS would not be classed as providing a distribution service and would not be included in the DNSP's RAB.

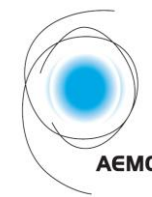
There are also situations where a third party (not the DNSP) may wish to transition existing network customers to a SAPS. Essential Energy understands that this is the subject of the next phase of the review and so has not provided comment on this scenario.

Should you have any questions or require further information about this submission, please don't hesitate to contact Therese Grace on 02 9249 3121 or by e-mail therese.grace@essentialenergy.com.au

Yours sincerely



Chantelle Bramley
General Manager Strategy, Regulation & Transformation



Attachment 1 Stakeholder feedback template

The template below has been developed to enable stakeholders to provide their feedback on the questions posed in this paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

Organisation: Essential Energy

Contact name: Therese Grace

Contact details (email / phone): therese.grace@essentialenergy.com.au

•Questions		•Feedback
Question 1 – Jurisdictional opt-in provisions		
(a)	Should the arrangements supporting the transition to off-grid supply include an explicit mechanism to enable jurisdictions to determine when the national framework for SAPS would come into effect for DNSPs in their jurisdiction?	Since jurisdictions are starting from very different places in terms of how SAPS are treated an opt-in framework may provide some advantages. An opt-in approach would allow time for some jurisdictions to make the necessary changes to areas under their remit before signing on to the national framework.
(b)	Should this mechanism provide jurisdictions with the flexibility to opt-in to the national framework on a more bespoke basis e.g. on a regional or distribution area basis, rather than state or territory wide?	

• Questions		• Feedback
Question 2 – Efficiency pre-condition		
(a)	Is the RIT-D and supporting consultation process appropriate in the context of SAPS, including in respect of the different models of SAPS supply (that is, microgrids and IPS)?	<p>If the investment is above the threshold for a RIT-D assessment then the existing RIT-D process is appropriate and should apply.</p> <p>The scope of the RIT-D should not be extended to apply to SAPS projects below the threshold.</p>
(b)	<p>To ensure they remain fit-for-purpose in the context of SAPS, what (if any) amendments may be required to:</p> <ul style="list-style-type: none"> • the RIT-D test (including to the classes of market benefits and costs) • the RIT-D consultation process and information requirements (including in relation to the non-networks options report), and • the AER's application guidelines? 	<p>The RIT-D remains the appropriate test for projects that are above the threshold.</p>
(c)	Is there a need to develop a light handed, targeted test to apply where the RIT-D is either not applicable or not proportionate? What might this test and/or assessment process look like?	<p>No additional test is needed.</p> <p>There is already a comprehensive framework in place to ensure efficient investment decisions are made. This framework is appropriate for ensuring that SAPS investments only occur where it is the most efficient solution. Specifically, the following requirements combine to provide confidence to the market that efficient decisions are made;</p> <ul style="list-style-type: none"> • Distribution Determinations – these provide a sound basis for assessing the medium terms plans of network businesses. This includes an existing framework that can cater for assessment of SAPS investments against the National Electricity Rules, Chapter 6 capex objectives, criteria and factors. • Incentive Based Economic Regulation – There are a number of schemes in place that ensure that there is a

•Questions		•Feedback
		<p>clear signal for efficient investment decisions, specifically the EBSS, CESS and DIAS.</p> <ul style="list-style-type: none"> • Distribution Annual Planning Reports – provide visibility of asset retirement, reporting of the underpinning asset management practices that determine investment decisions, and reporting of a significant number of general system limitations. • Replacement Expenditure Planning requirements – provides visibility of future asset retirements and de ratings, this provides visibility of future SAPS opportunities. • Demand Management Engagement requirements – ensures relevant market participants are informed and engaged on SAPS solutions. • Regulatory Information Notice – a significant amount of network information including the reliability of specific areas is provided within the RIN's. This process could be used to provide information on SAPS investments. <p>All of these elements of the regulatory framework can cater for investments in SAPS. This should provide sufficient confidence that the SAPS investment represents the most efficient electricity market outcome.</p>
Question 3 – Consumer consent provisions		
(a)	<p>Is a requirement for customer consent necessary? If existing consumer protections can be maintained for SAPS customers, is consent necessary? If so, should this be based on a unanimous or majority consent model? What are the implications and issues associated with each model?</p>	<p>Essential Energy recognises the importance of engaging with customers when considering moving to an off-grid supply model. Without customer support it would not be possible to implement these changes and provide the benefits associated with SAPS.</p> <p>An important principle should be that customers that are transitioned to off-grid supply by their DNSP through a SAPS should receive the same level of service as when they were</p>

•Questions		•Feedback
		<p>connected to the network. This would be crucial in getting customers to support a move from grid-supplied to off-grid electricity supply. This is particularly the case in Essential Energy's service territory which experienced the process of rural electrification. Being connected to the grid was something to be valued and engagement will be needed to communicate the benefits of returning to an off-grid supply model.</p> <p>Essential Energy is concerned that a unanimous consent model may lead to situations where one or a very small minority of customers could block or frustrate a process to move to a SAPS service model. This may be the case even when the proposed SAPS could provide better service for these customers and reduce costs overall. In this context a majority consent model may be an appropriate compromise.</p> <p>The example given of the majority consent model used in embedded network regulation, where 85 per cent of tenants or residents must agree to the conversion to an embedded network, may be instructive. This model also requires that the applicant must conduct a marketing campaign informing tenants of the proposed change. Similar requirements could also apply in the context of SAPS.</p>
(b)	<p>Are customers equipped to make informed decisions, particularly with respect to understanding what they are agreeing to in terms of reliability and security, and potentially price, outcomes? Should explicit informed consent be required before DNSPs transition customers from the grid to supply via a SAPS?</p>	<p>Customers are already considering the implications of off-grid supply, particularly in rural and remote areas. Essential Energy considers that if consumers are given accurate information on the implications of moving to a SAPS they can make their own decisions.</p> <p>As part of our 2019-2024 regulatory proposal Essential Energy conducted a customer engagement programme. This included online surveys of just over 752 residents and 250 businesses. In addition, 7 community deliberative engagement forums were conducted across our service territory. As part of this engagement some insights into customers' views of microgrids</p>

•Questions	•Feedback
	<p>and moving certain customers to off-grid supply were gathered.</p> <p>The consumer research conducted for Essential Energy showed strong support for consideration of microgrids from both forum attendees and customers that were surveyed online. Support for microgrids was 73% from forum attendees, 68% from residential customers surveyed and 80% from business customers surveyed. This support for microgrids was because they are considered to be a way to ensure that there is not overinvestment in maintaining poles and wires to rural and remote areas. Microgrids were seen to offer a good solution for reliability and affordability in some areas. It was believed important that a long-term view is taken on this, i.e. 20 years' time, so that changes can be made gradually and the cost of making these changes will not be landed on customers in the future.</p> <p>Participants were also asked to indicate how concerned they would be if Essential Energy changed the source of generation for their connection, if they could guarantee the maintenance of reliability and price levels. At the forums, with more information provided, over six out of ten customers (61%) suggested that they would not be concerned at all about changing the source of generation for their connection. The results from the online surveys, where less information was provided to participants showed less support for microgrids.² This demonstrates the value of providing information and engaging with customers on this issue.</p> <p>To facilitate the important customer engagement that will be required, the regulatory framework should make it clear who is responsible for customer engagement on the subject of SAPS and who bears the cost of this engagement.</p>

•Questions		•Feedback
(c)	Where consent is considered appropriate, could incentives be offered by DNSPs to secure the consent of affected customers? What might these be (and could the benefits of a SAPS be shared)?	It may be appropriate for the DNSP to offer some incentives to customers to agree to be moved to off-grid supply. However, any payments used as an incentive should form part of the analysis of costs and benefits for the investment. The incentive could be considered a cost-sharing mechanism as it may result in savings for customers who remain connected to the grid.
(d)	What alternative mechanism(s) could be used to ensure the long-term interests of affected customers are met?	In the absence of explicit consent requirements, Essential Energy would support a consultative model (similar to the New Zealand model outlined in the issues paper). A specified period of time and method of consultation could be specified to make sure that the DNSP has undertaken sufficient consultation with affected customers.
Question 4 – Regulatory oversight role		
(a)	Is there a need to incorporate a formal oversight and/or approval role by the AER (or other appropriate body) in relation to the transition arrangements for DNSP-led SAPS?	<p>As discussed in response to question 2(c), no additional role is required beyond the oversight role already undertaken by the AER. The decision to move existing customers in remote areas to a SAPS should be motivated by finding a solution that is the most efficient way to reliably supply these customers with electricity. The regulatory framework should not inhibit the adoption of new technologies that can benefit all consumers.</p> <p>Essential Energy is concerned about the prospect of AER approving individual SAPS. Approval of individual investment decisions would present a large regulatory burden and would constitute a change in the AER's role from overseeing network decisions to making investment decisions on behalf of DNSPs. Our initially modelling shows potential for 2,441 customers to</p>

² However, even in the online surveys there was support for microgrids. Only 19% of residential customers and 22% of businesses were concerned about being moved from grid-supply to a microgrid.

•Questions		•Feedback
		move to off-grid supply. It would not be feasible for the AER to be involved in this number of investment decisions.
(b)	Who would be best placed to perform such a role?	The AER's existing role is sufficient.
(c)	If the AER is the appropriate body, what additional benefits might be provided by giving the AER additional powers in relation to SAPS, given it is already responsible for monitoring, investigating and enforcing compliance with various aspects of the energy laws and rules?	Moving from grid-connected to off-grid supply through a SAPS would require comparing mature "poles and wires" technology with new and emerging technological solutions. To assist with this assessment the AER may consider preparing a guideline on the assessment of a SAPS solution. Consideration could also be given to using existing information reporting processes such as RINs to provide the AER with information on DNSP investments in SAPS.
Question 5 – Grid-connection pre-condition		
(a)	Should new customers or developments without an existing grid-connection be eligible for SAPS provision facilitated by a DNSP? Why or why not?	<p>DNSPs must provide potential new customers with an offer to connect. This offer must include an estimate of the costs associated with that connection, which are borne by the customer.</p> <p>It may be the case that, for new customers who are not currently connected to the grid, it is cheaper to supply them with electricity through a SAPS rather than a network connection. In these cases, the DNSP should notify the customer that a SAPS solution may be more suitable to their needs when providing the offer to connect.</p> <p>The customer should be able to procure a SAPS solution through the competitive market, including through the DNSP if chosen by the customer.</p>
(b)	Would new customers always have a financial incentive to obtain SAPS from the competitive market? Could implementation of a SAPS for a new customer or group of customers by a DNSP result in network savings?	Yes, depending on the cost of a new connection a SAPS solution may be more economic for a new customer than connecting to the network. New customers bear the cost of connecting to the network in Essential Energy's service territory

•Questions		•Feedback
		<p>and in certain circumstances a SAPS may be more cost effective than paying for traditional network connection. This already occurs now in remote parts of the network and is likely to occur more frequently over time as the cost of SAPS solutions continue to fall.</p> <p>Yes, in some cases. If new customers in remote areas have their energy supply needs met by a SAPS solution rather than a network connection it may result in network savings. The network savings would be relative to a scenario where this customer (or group of customers) connect to the network. The savings could be in the form of avoided capital expenditure and, more likely, avoided ongoing operating costs such as maintenance of long radial lines serving few customers and reduced vegetation management costs. There may also be additional benefits such as improved reliability outcomes (relative to grid connection) and reduced bushfire risk (as having network infrastructure in heavily vegetated areas may contribute to bushfires), but these are more difficult to quantify. To assist in quantifying these costs and benefits Essential Energy has developed a risk framework that allows us to consistently value risk and benefits for our assets. This robust risk framework links everyday decision-making to the best outcomes in safety, network performance, service delivery and business sustainability. This framework could be used to identify SAPS solutions, where they represent the best value for our customers.</p>
(c)	<p>Would enabling DNSPs to consider and potentially implement a SAPS solution as an efficient alternative to grid connection for new customers damage the competitive market for SAPS? In answering this question, consider new customers located in remote areas where a competitive market for SAPS may not be established.</p>	<p>This would depend on whether there is a reasonable prospect of competition developing in these areas. Given the costs involved in installing and maintaining SAPS in remote areas the development of a competitive market for SAPS may not be viable in all areas.</p> <p>There is precedent for treating areas differently depending on network conditions under the current regulatory framework.</p>

•Questions		•Feedback
		<p>Existing processes such as the regional office exemption included in the ring-fencing guidelines or Essential Energy's Provider of Last Resort waiver and provisions are used in areas where there is no reasonable prospect that a competitive market can develop. Given that SAPS are likely to provide the most benefits to customers located in areas where a competitive market is not likely to develop, a similar exemption would ensure that all customers could enjoy the potential benefits of SAPS, regardless of their location. This is a pragmatic approach and balances efficiency and competition concerns and ultimately is in the long-term interests of consumers.</p> <p>However, given the long-term impact of the decision to transition a customer to off-grid supply, a more certain framework than a waiver (which can be revoked) would need to apply. Essential Energy considers that a number of qualifying criteria should be developed by the AER that outline circumstances where the DNSP should be able to supply a SAPS solution, as there is limited prospect that these services can be supplied by the competitive market. This would provide a transparent approach that would allow for the full benefits of SAPS to be realised.</p>
(d)	What are the potential issues associated with DNSP obligations to connect where SAPS are regulated under the national framework?	
Question 6 – Right of reconnection		
(a)	Should existing reconnection rights apply unchanged to DNSP-SAPS customers wishing to seek reconnection to the grid? Alternatively, should the SAPS arrangements include special rights for DNSP-SAPS customers seeking to reconnect/revert?	To ensure that the SAPS solution reduces costs for the entire customer base, customers should only be able to reconnect to the grid on a fully cost-reflective basis. This includes the capital costs associated with reconnection and cost-reflective tariffs once the customer has reconnected.

•Questions		•Feedback
(b)	Should the reconnection rights of DNSP-SAPS customers who have provided consent (where applicable), or new customers, differ from the rights of customers who have not provided their consent to be moved?	No.
(c)	What might a “return to grid process”, including charges, look like for DNSP-SAPS customers	As outlined in 6 (a).
(d)	Would a mechanism need to be designed to avoid any potential to burden other customers with the costs of reconnection?	Reconnection to the grid should be fully cost-reflective (both initial connection costs and ongoing network tariffs that reflect the cost of serving that customer). This is the only way to avoid placing a cost burden on other customers.
Question 7 – Defining the SAPS system service(s)		
(a)	Should the national framework be designed around one model of SAPS service provision which could accommodate various circumstances? What might this model look like?	<p>The model of SAPS provision should be able to accommodate a wide range of circumstances.</p> <p>The service model for SAPS should be guided by what constitutes the best outcome for customers overall. This requires a pragmatic approach. The regulatory framework should not unduly restrict the ability of DNSPs to make efficient investments that improve supply to remote, edge-of-grid customers while also reducing costs for all customers that remain connected to the grid. The DNSP-led model described in the cover letter should be allowed in circumstances where it can be demonstrated to maximise the benefits for consumer overall.</p> <p>There are clear cases where allowing the DNSP to transition certain customers to off-grid supply provides benefits for all customers. Initial internal modelling suggests that over the next 10 years SAPS are likely to be used as the lowest cost serve technology for over 2,000 of our customers. Over the SAPS</p>

•Questions	•Feedback
	<p>lifecycle Essential Energy forecasts just over \$150 million in avoided capital expenditure and a total reduction in operating expenditure of over \$70 million.³ The deployment of SAPS is also estimated to provide over \$1 million in savings per year in reduced bushfire risk. Overall, taking into account the estimated capital costs of SAPS, the potential nets savings to Essential Energy are estimated to be over \$120 million over 20 years.</p> <p>DNSPs should be able to lead the transition of existing customers to off-grid solutions, where it is efficient to do so. This is because under the current tariff structures, high cost-to-serve customers are not exposed to the full cost of their electricity supply. This is unlikely to change in the future. The results from Essential Energy’s recent community deliberative engagement forums were that 80 per cent of attendees at the forums indicated that Essential Energy should not charge a different amount to those living in different locations based on the cost of supplying them with electricity. However, there was strong support from customers of Essential Energy exploring other options to supply rural and remote customers, such as microgrids.⁴</p> <p>DNSPs are uniquely placed to identify areas where a SAPS solution may be beneficial to both the customers who will be moved off-grid (through better reliability and service quality)</p>

³ These figures are based on reasonable expectations of reductions in the costs of stand-alone power systems over the next 3-4 years as a result of the industry becoming more mature. SAPS analysis lifecycle taken as 20 years. The savings figures are given in 2019 dollar terms. Decommissioning costs, if any are not included.

⁴ The results of our consumer engagement on this topic are given in answer 3(b) above.

•Questions		•Feedback
		<p>and for the rest of the customer base that will remain connected to the grid. This is because the DNSP:</p> <ul style="list-style-type: none"> • has the information required on the cost to serve customers which is not reflected under current tariffs. • has information on asset retirement and replacement. A SAPS solution that is employed in place of capital expenditure to replace or repair existing assets would provide the most benefit. • Has an existing relationship with customers in remote areas and has a level of trust that other providers may not have. <p>If the transition of existing customers is not led by the DNSP, who has the above information it may be the case that the roll-out of SAPS may result in adverse outcomes for customers that remain connected to the grid. This is because tariffs are not cost-reflective and competitive third-party providers of SAPS may choose customers that represent the most value to them, rather than what represents the most value to all customers. This may result in higher costs for customers that remain connected to the grid and undermine the viability of the network over the longer term.</p> <p>DNSP-led SAPS provision may also lead to greater network asset utilisation and greater efficiency overall.</p>
(b)	<p>If the answer to the previous question is no, should this review focus on establishing a framework that allows DNSPs to pursue a variety of approaches to SAPS service provision, depending on the circumstances at hand? Why or why not?</p>	<p>There a wide range of circumstances under which DNSP, customers or third-party providers may wish to pursue an off-grid supply solution. These solutions can vary widely in size and complexity. It should also be noted that customers in remote parts of the country already make this choice and procure systems that meet their own electricity needs.</p> <p>The key point is that the regulatory framework should not unduly restrict the provision of a SAPS, where it is efficient and in the best interests of customers to do so. This includes the</p>

•Questions		•Feedback
		<p>DNISP-led model. This can be done in various ways through one flexible model or a variety of approaches depending on the circumstances. The comments provided to the above question regarding the need for flexibility in the regulatory framework apply regardless of the approach taken.</p>
(c)	<p>In what circumstances (if any) might it be appropriate for a DNISP to own/operate a vertically integrated SAPS solution?</p>	<p>As noted above, there may be cases where a SAPS solution for existing remote, edge-of-grid customers results in significant savings for all customers while improving reliability and service outcomes for these remote customers. This is the “DNISP-led” model described in the cover letter. A SAPS solutions may also have associated benefits such as reduced bushfire risks and a reduction in operating expenditure such as vegetation management.</p> <p>For example, in one area of our network, where we are considering a SAPS solution, the costs of vegetation management for one feeder is in excess of \$50,000 per annum. Most of this cost is due to one 5.5km spur that is located in heavily vegetated national park land. This spur serves just two customers and the cost of maintaining this spur is far in excess of the revenue generated. This demonstrates the significant savings that could accrue to all customers if these customers could be moved by the DNISP to off-grid supply.</p> <p>Remote areas where long radial lines service few customers or lines that run through heavily vegetated areas are likely to be areas where SAPS can provide the most benefit to our entire customer base. This is of particular interest to Essential Energy, given our network topology. Essential Energy has the lowest customer density in the NEM at just 4.6 customers per</p>

		<p>kilometre of powerline. Our longest length of powerline is 1,905 kilometres, this line services just 335 customers.</p> <p>These remote and/or heavily vegetated areas would also present challenges for competitive providers to operate and maintain SAPS systems and are most well-suited to the “DNSP-led” model.</p> <p>One major advantage is that the DNSP already operates in this service territory and therefore has a physical presence in the area. The DNSP is therefore far better placed to provide maintenance and other services required on an on-going basis in a cost-effective way. There are therefore many economies of scale and scope that can be achieved through the DNSP-led approach.</p> <p>On the other hand, third-party providers of SAPS are not likely to have a physical presence in these remote and rural areas and therefore their costs are potentially much higher than that of the local DNSP. This may lead to customers paying for services to maintain a SAPS that are much more costly than they need to be. The small numbers of customers and the costs involved in servicing remote areas mean that there is little prospect of achieving any scale efficiency for these providers and therefore limited scope for the development of a competitive market with any great degree of consumer choice.</p> <p>Taking these customers off-grid and providing a SAPS system that is owned and maintained by the DNSP is therefore likely to provide a more efficient solution while not unduly damaging the development of a competitive market. This is also coupled with the fact that the DNSP has obligations to maintain a reliable supply to customers and has an existing relationship with the customer. Overall, the customer experience is better under the DNSP-led model, compared with a third-party</p>
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•Questions		•Feedback
		<p>provider. This is because there are less parties involved, limiting risks to consumers of poor performance or service.</p> <p>Essential Energy does see value in maintaining retail competition where this is appropriate but acknowledges the complexity involved (see responses below).</p> <p>Given the wide range of benefits that may accrue under these circumstances the Commission should adopt a pragmatic approach to the service model for SAPS and not unduly restrict the ability of DNSPs to provide SAPS solutions.</p>
(d)	When (that is, at what stage point in the process) would contestability in the provision of SAPS be tested and by who?	<p>There is precedent for treating areas differently depending on network conditions under the current regulatory framework. Existing processes such as the regional office exemption included in the ring-fencing guidelines or Essential Energy's Provider of Last Resort waiver and provisions are used in areas where there is no reasonable prospect that a competitive market can develop.</p> <p>However, given the long-term impact of the decision to transition a customer to off-grid supply a more certain framework than a waiver (which can be revoked) would need to apply. Essential Energy considers that a number of qualifying criteria should be developed by the AER that outline circumstances where the DNSP should be able to supply a SAPS solution, as there is limited prospect that these services can be supplied by the competitive market. This would provide a transparent approach that would allow for the full benefits of SAPS to be realised.</p>
Question 8 - Role of the distributor		
(a)	Are the issues identified in the contestability of energy services rule change applicable in the context of SAPS?	The remote and disconnected nature of the SAPS renders them incapable of simultaneously providing any of the multiple value/ revenue streams in either the regulated or nonregulated segments of the electricity system as envisaged under the

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		Contestability of Energy Services rule. Their very 'islanded' nature means they cannot offer benefits beyond that of the customer to which they are attached. As such, the Contestability of Energy services rule should not apply to SAPS.
(b)	Is it necessary and appropriate to restrict the ability for DNSPs to earn a regulated return on behind-the-meter and/or in-front-of-the-meter assets specifically associated with the provision of SAPS? Why or why not?	No, the option of DNSP owned and operated SAPS should not be restricted in all cases. See answer to question 7.
(c)	In what circumstances (if any) might it be appropriate for a DNSP to own/operate a vertically integrated SAPS solution (that is, to seek an exemption (where relevant) from restrictions on asset ownership)?	See answer to question 7.
Question 9 – Provision of retail services		
(a)	Is it likely to be feasible to design arrangements to provide SAPS customers with access to retail competition? What might these arrangements look like?	<p>As a principle Essential Energy agrees that retail competition should be maintained, where appropriate. We welcome further consideration of service models that preserve retail competition, such as that proposed by AusNet services.</p> <p>The main advantages of a service model that preserves retail competition is that it would also preserve the consumer protections framework that applies to customers through the NER and NERR.</p> <p>Another positive of these models is that it may help customers feel more comfortable with the transition to a SAPS as they would be able to keep their retailer and switch retailers if desired. However, as time passes and the customer becomes more comfortable with off-grid supply this effect may lessen.</p> <p>Essential Energy would also note that the market for SAPS is nascent and care should be taken not to implement a model</p>

		<p>that is overly complex and rigid. It may be the case that as the market develops trials and regulatory sandboxes may be needed to try out and trial different options for the retail portion of a SAPS solution.</p> <p>The retail market has developed to help small customers manage the volatility of the wholesale price through more stable retail tariffs. In return for this risk management service, as well as other services such as billing, the retailer earns a margin. This is not relevant to a SAPS. The main drivers of generation costs in a SAPS is the choice of equipment and the configuration of the system. It may be the case therefore that in the long-term a new market for the supply of energy to customers in a SAPS setting may be more appropriate.</p> <p>In short, a model such as that proposed by AusNet Service may be appropriate as the market transitions. However, there are some difficulties associated with this model that requires further consideration.</p> <p>The AusNet Services model creates a link between the NEM wholesale market and the SAPS because the retailer pays the NEM wholesale price for generation in the SAPS, even though the wholesale price may not be reflective of the costs of generation in the SAPS at that time.</p> <p>Further examination is needed on the implications of splitting the physical and financial portion of the retailer's load, as the retailer would pay the spot price for the energy but would not have a physical position for those customers. The extent to which this model exposes the retailer and the DNSP to wholesale market risk would need to be examined further.</p> <p>This model uses the NEM wholesale price as the reference price for energy in the SAPS. This is presumably for simplicity but creates problems. These problems relate to the fact that</p>
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		the wholesale price may not reflect the cost or value of energy in the SAPS at that time. For example, to maximise the efficiency of the SAPS some behavioural change may be required from the customers connected to the SAPS. For example in order to reduce the size of the batteries or back-up generation required in the SAPS it may be necessary to have customers shift their consumption to the middle of the day, when the output of solar PV is highest. Existing retail tariffs and wholesale prices may not provide sufficient or appropriate price signals to SAPS customers to bring about this behavioural change.
(b)	What specific retail services would need to be provided to customers supplied via a SAPS model of supply?	As noted above, in a SAPS setting the risk management function performed by the retailer on behalf of the customer is no longer relevant. A separate retail function in a SAPS setting would perform billing, handle customer complaints and deal with obligations under the NERR such as hardship programmes and disconnections.
(c)	Is there a need for a separate retailer role (distinct from the provision of other services) within the SAPS model of supply? Why/why not?	
(d)	Should retail services be managed by an authorised retailer?	
Question 10 – Other roles/responsibilities specific to stand-alone power system provision		
	Who are the key stakeholders within a SAPS model of supply (other than the DNSP and the retailer) and, specifically, what would be their key roles and responsibilities?	
Question 11 – Treatment of existing market participants		
(a)	Which existing market participants (if any) may be impacted by a DNSP's decision to transition a customer (or group of customers) to a SAPS model of supply?	This will depend on whether retail competition is retained. See answer to question 9 above.

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(b)	Should DNSPs be required to consider the impact of transitioning a customer (or group of customers) to a SAPS on these participants? Why or why not? Via what mechanism?	
(c)	Is it necessary to put in place special arrangements for market participants, including embedded generators or retailers, who may be affected by a DNSP's decision to transition customers to a SAPS model of supply? What might these arrangements involve?	
Question 12 – Roles of AEMO and the AER		
(a)	What role could/should the AEMO play within the framework for SAPS provision by a DNSP?	<p>It may also be useful for AEMO to gather information on the number, location and technical characteristics of SAPS across the network.</p> <p>Transparency on the number and location of SAPS may provide valuable information to the market on opportunities for SAPS development. The new register of distributed energy resources could be used for this purpose.</p>
(b)	What role could/should the AER play within the framework for SAPS provision by a DNSP?	As discussed in question 4 and 2(c), no additional role for the AER is required.
Question 13 – Retail price protections		
(a)	If retail competition is not possible in SAPS, what alternative protections may be appropriate (e.g. retail price controls) for customers receiving supply via SAPS?	The AER does not currently regulate retail prices. A process would need to be developed whereby the AER would consider what an appropriate price for a customer supplied by a SAPS should be. This price would represent the maximum price a SAPS customer should pay. This could be considered in light

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		<p>of the potential new role the AER may have in determining default retail tariffs.</p> <p>This may be an issue for the jurisdictions to consider further to ensure that customers in a SAPS have access to affordable energy. There are a number of consumer protection issues that would need to be considered if retail competition were not practical, these include access to hardship programmes and the process by which a customer in a SAPS could be disconnected.</p> <p>Affordability of energy is a key consideration in moving customers to a SAPS solution. Customers should not be disadvantaged by the transition to off-grid supply and this includes through the price they pay for their energy.</p>
(b)	Would applying the pricing condition from the AER's retail exempt selling guideline to not charge more than the standing offer price that would be charged by the local retailer be appropriate for SAPS, if retail competition does not apply? Is there an alternative price control that would be more appropriate?	The standing offer price represents the cost to supply energy to a customer that is drawing their energy from the wholesale market. A customer supplied through a SAPS may be subject to a different cost structure. This would need to be carefully considered in deciding price controls for SAPS customers.
(c)	In the areas that currently have price regulation, is extending that price regulation to customers in SAPS an appropriate approach?	
Question 14 – Other national energy-specific consumer protections		
(a)	The Commission has suggested a general principle that energy-specific consumer protections for customers being supplied via a DNSP-led SAPS should be equivalent to those for grid-connected customers. Are there any significant provisions that wouldn't apply, or would require amendment for customers under a DNSP-led SAPS model of supply?	

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Question 15 – Consumer protections specific to SAPS customers		
(a)	Are there any additional consumer protections that may be necessary for SAPS customers?	<p>This would depend on whether retail competition is maintained. There are a number of consumer protection issues that would need to be considered if retail competition were not practical, these include access to hardship programmes and the process by which a customer in a SAPS could be disconnected.</p> <p>As a principle, customers who are moved to a SAPS solution by their DNSP should have the same consumer protections as grid-connected customers.</p>
(b)	In relation to detailed product information for the SAPS, what are the minimum provisions that should apply (if any)?	
Question 16 – Options for providing electricity-specific consumer protections		
	To provide equivalent protections for consumers receiving electricity supply via SAPS is the most efficient approach to amend the jurisdictional Acts adopting the NERL, as well as amending the NERL and NERR? Is there an alternative approach which may be more effective?	
Question 17 – Reliability, security and quality		
(a)	What reliability, security and quality standards are appropriate for DNSP-led SAPS? Should the same reliability and service quality levels apply as for grid-connected customers?	<p>Yes, as a principle, customers that are transitioned to off-grid supply by their DNSP in order to reduce the costs of serving all customers should expect the same standards as grid-connected customers. Any reductions in reliability, which in some areas suitable for SAPS may already be quite low, would undermine stakeholder acceptance of the technology.</p> <p>It should also be possible for customers in new SAPS, provided through the competitive market, to specify a level of reliability and service quality levels that are below the standards required of a DNSP, in return for a cheaper service.</p>

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		A DNSP providing a SAPS to a new customer through the competitive market should also be able to negotiate a lower reliability standard.
(b)	Are there any existing network reliability, security and quality standards that would be difficult to comply with for SAPS? For example SAIDI and SAIFI requirements may have equivalent principles, but the practice for determining them may be different in SAPS.	<p>These standards would need to change to apply to customers served by SAPS. This is because the overall reliability standards for feeders and individual feeder standards specified in Essential Energy's distribution licence are unlikely to apply in a SAPS context, based on the definition of a 'feeder'.</p> <p>These standards are set at jurisdictional level. To ensure that the framework for SAPS is as consistent as possible with the current framework they should also be set at a jurisdictional level for SAPS customers. These standards would need to be changed before New South Wales could "opt-in" to the national framework.</p>
(c)	Should GSLs be determined for DNSP-led SAPS? If so, should the same standards apply as for grid-connected customers (why/why not)?	If the customer is transitioned to off-grid supply by the DNSP and continues to be a customer of the DNSP then the same standards should apply as for grid-connected customers.
Question 18 – Other jurisdictional consumer protection considerations		
(a)	Are the other jurisdictional issues presented in section 5.6 less likely to be a concern for DNSP-led SAPS (why/why not)?	<p>Yes. It is likely that a DNSP-led service model would have less consumer protection issues. This is because the DNSP is a regulated entity and is subject to far greater regulatory oversight than an independent third-party SAPS provider.</p> <p>It is important that issues such as safety standards are considered carefully in the context of SAPS.</p>
(b)	Should any of these issues be examined in greater detail in relation to DNSP-led SAPS?	
Question 19 – Third party stand-alone power systems – decision making framework		
(a)	Which party should make the decision to transition customers to a SAPS and which party/ies should approve the decision	This decision may be made for a wide range of reasons and in a number of different circumstances. The regulatory framework

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		would need to be sufficiently flexible to account for these circumstances. More detail is required on what this framework could look like before we can provide detailed comment.
(b)	What should be the grounds for deciding to transition customers to a third party SAPS?	
(c)	Which mechanisms should be employed to seek approval and/or consent?	
(d)	If the consent of transitioned customers is sought, what is the proportion of customers that should provide their consent? Should consent factors be defined, and what should they be?	
(e)	Should transitioned customers, either individually or collectively (in the case of a microgrid), retain the right to reconnect to the grid?	
Question 20 – Third party stand-alone power systems –asset transfer and stranded assets		
(a)	Is there a role for the AER, jurisdictional regulator or other body in setting or approving asset values and pricing methodologies as a result of the transfer?	The AER may assist in this process by preparing a guideline on how assets can be transferred between parties.
(b)	How should asset transfers be treated in the DNSP RAB?	
(c)	How should stranded assets be treated in the DNSP RAB?	
(d)	Should corresponding fees be charged to the transitioned customers and customers left behind on the grid?	

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(e)	Is a dispute resolution framework design required for asset transfer and stranded assets? What are the key elements of the design?	
Other comments on the review or consultation paper		
	Do you have any other comments on the rule change request or the consultation paper?	