Ref: 20190815TG:CB

15 August 2019

Alisa Toomey
Australian Energy Market Commission
PO Bos A2449
Sydney South NSW 1235

Dear Ms Toomey

EMO0037 – Essential Energy submission to the priority 2 draft report – 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 (AEMC or Commission) draft report on priority 2 published on 27 June as part of the Review of the regulatory frameworks for stand-alone power systems (the review).

Stand-alone power systems (SAPS) are set to become a more prominent feature of the energy market in Australia and will be provided by a number of different parties. Essential Energy supports the development of a competitive market for third-party SAPS provision, subject to robust regulatory requirements to ensure positive outcomes for energy consumers.

Essential Energy considers that there is a risk of regulatory arbitrage or "forum shopping" as a result of this proposed framework. Essential Energy agrees with the Commission that customer outcomes should be the same, to the extent possible, regardless of how their energy is supplied or who supplies their energy services. The inconsistency between this proposed framework and the Commission's decisions regarding priority 1 SAPS and embedded networks is therefore a cause for concern.

Essential Energy notes that much of the detail of the proposed regulatory framework has yet to be provided. One of the most significant features of the regulatory framework, the criteria for determining which category a third-party SAPS will fall into, has not been discussed in any detail. This is likely to be one of the most contentious issues to be decided and will have far-reaching implications for the future regulatory arrangements.

Given the complexity of the issues that will require further consideration, another round of formal consultation should be undertaken as well as stakeholder forums and workshops on specific issues.

Our response to the specific issues raised in the draft report is attached to this letter. If you have any questions in relation to this submission, please contact Therese Grace, Regulatory Strategy Manager on 02 9249 3121 or therese.grace@essentialenergy.com.au.

Yours sincerely

Chantelle Bramley
General Manager, Strategy Regulation and Corporate Affairs

Essential Energy submission to the draft report

General comments

Focus on consistent outcomes for energy consumers

Throughout the draft report the Commission compares the proposed arrangements for third-party SAPS with other recent decisions, namely priority 1 SAPS and embedded networks.

A stated aim of priority two of the review is to avoid inconsistencies between the regulatory arrangements across these three areas. Essential Energy agrees with this objective and considers that outcomes for consumers should be as consistent as possible, regardless of who their energy supplier is.

We consider that there are a number of areas where inconsistencies exist across proposed regulatory arrangements and there is a real risk of "forum shopping" by providers. This would occur if a provider changes their business model to minimise their regulatory burden and is clearly not a desirable outcome. The business model of an energy market participant should be based on efficiency and customer demand and not determined by the desire to avoid burdensome regulatory arrangements.

Another issue with having disparate regulatory arrangements for different supply models is that it would inhibit the transition from one model to another. For example, in future if a third-party microgrid wishes to connect to the grid and become an embedded network to access a range to new distribution-level markets. Having inconsistent regulatory arrangements would hinder this transition considerably as the regulatory requirements for an embedded network service provider are very different those proposed for a third-party SAPS provider under category 2 or 3.

Essential Energy has analysed the proposed regulatory arrangements for third-party SAPS outlined in the draft report and compared it with the Commission's decisions with respect to priority 1 SAPS and embedded networks. This analysis is included as an Appendix to this submission. We have some concerns regarding the consistency of regulatory arrangements across these decisions and the risk for inconsistent outcomes for customers.

Essential Energy would welcome further engagement with the Commission to further understand the principles and philosophy underpinning the proposed regulatory arrangements across these supply models.

Designing a proportional regulatory framework

The Commission has emphasised the need for a proportional regulatory framework for SAPS throughout this priority of the review. It is this principle of proportionality that has informed the tiered approach to the proposed framework for third party SAPS.

Essential Energy has consistently advocated for a flexible and proportionate regulatory framework to reflect the range of circumstances in which SAPS may be used.[1] In our submission to the consultation paper for priority two of this review, Essential Energy stated that the principle of proportionality should also be considered in the regulatory arrangements for priority 1 SAPS.[2]

The Commission's analysis regarding the wide range of circumstances in which SAPS can be deployed is also relevant for priority 1 SAPS and the inconsistency between a tiered framework for third-party providers and one heavily regulated model for DNSPs requires further explanation and reasoning. Proportional regulation should apply to the problem being solved rather than the party providing the service.

There is no clear reason provided why DNSPs should be subject to a separation of supply and generation components, and hence higher costs of supply than third-party providers for a similar

[1] Essential Energy, submission to the priority 1 issues paper, pp.15-16. Available at: https://www.aemc.gov.au/sites/default/files/2018-10/essential%20energy%20-%2020181015.PDF

[2] Essential Energy, submission to the priority 2 consultation paper, p.1. Available at: https://www.aemc.gov.au/sites/default/files/2019-04/19-5679%20%20Rule%20Change%20Submission%20EMO0037%20-%20Essential%20Energy%20-%2020190329.pdf

SAPS system. The Commission notes on numerous occasions that for smaller SAPS the prospects for competition in generation or retail are low and therefore vertical integration is an appropriate and efficient SAPS service delivery model. Therefore, parties under the priority 1 service delivery model should have the same opportunity to provide SAPS in the same efficient manner as a competitive provider under the priority 2 model, where it can be demonstrated that there is no, or negligible, impact on competition.

The objective of a DNSP deploying a SAPS is to minimise network costs for all customers. Therefore, any disproportionate costs associated with a regulatory regime are inefficient, counterproductive and would not be in the long-term interests of consumers.

National or jurisdictional regulation

The proposed framework delegates much responsibility to jurisdictional regulators. Again, there appears to be inconsistencies with recent decisions which sought to bring customers into the national regulatory framework.

It may be the case that jurisdictional arrangements are most appropriate at the time that the regulations and licence conditions are designed. However, there may be concerns that over time the jurisdictional arrangements may begin to diverge. This would not lead to consistent customer outcomes.

Customers in a category 2 or 3 third-party SAPS will be among the few in the market that will not have access to the competitive retail market or the protections under the NERL and NERR. The process for updating the consumer protection requirements under the jurisdictional licence conditions is unclear. There is a risk of divergence between the consumer protections for grid-supplied and embedded network customers under the NERL and NERR and SAPS customers over time and across jurisdictions. One example of this may be provisions regarding life support customers.

These third-party SAPS customers would have to rely on jurisdictional regulators to rectify identified issues with their energy supply. This process may be more time consuming and onerous than for grid-supplied customers. If a grid-supplied customer is dissatisfied with their retailer they can switch to a new provider. Poor performance from DNSPs can be dealt with through AER enforcement actions or through jurisdictional requirements to meet defined reliability standards. Generators are subject to AEMO requirements on technical capabilities and following dispatch instructions. SAPS providers will perform all these functions and yet the process for rectifying performance issues is not clear and will differ between jurisdictions.

Comments on specific issues raised in the draft report

Categories of third-party SAPS

Essential Energy agrees with the Commission's assessment that more than one category of microgrid is required for a proportionate and risk-based regulatory framework. We also agree that given the wide range of circumstances in which a SAPS may provide an efficient alternative to grid supply, a tiered approach is appropriate. As discussed above, we have consistently advocated for flexibility in the regulatory arrangements for the deployment of SAPS, regardless of who is providing the service, to account for the diversity of potential use cases for this technology and its likely evolution over time.

In some cases, a SAPS system that a DNSP wishes to install may be very similar in characteristics to a category 2 or 3 third-party SAPS. Given that these systems are said to pose minimal risks, consideration should be given to treating some priority 1 SAPS in a similar manner to category 2 or 3 systems proposed in this review.

The criteria used to define the categories of third-party SAPS could be used to inform potential new integrated service delivery models for priority 1 SAPS.

The Commission has not provided the criteria that it proposes to use to define the categories of third-party SAPS. This is likely to be one of the most contentious issues to be decided and will have far-reaching implications for the future regulatory arrangements. Therefore, the design of the criteria for

categorising SAPS would benefit from comprehensive stakeholder input and engagement. We encourage the Commission to undertake further, more detailed, consultation on this issue.

Customer consent

The main point of difference the Commission notes between priority 1 SAPS and third-party SAPS is that consumers would choose to move to a third-party SAPS and would have to provide Explicit Informed Consent. The requirement to gain consent is thought to justify a regulatory arrangement that differs from traditional supply arrangements for grid-connected customers. This means that customers who choose to transition to a third-party SAPS (category 2 and 3 in particular) do not need to have access to retail competition, NEM compliant metering arrangements, DNSP reliability standards or the consumer protection regime under the NERL and NERR.

Given the importance placed on the provision of Explicit Informed Consent the Commission should provide more detail on the level and type of information SAPS providers need to provide to customers/communities in order to ensure their choice is an informed one and that they are sufficiently informed to make the trade-offs required.

The Commission should also consider whether the service delivery model proposed for category 2 and 3 third-party SAPS would also be reasonable for priority 1 SAPS if the DNSP could gain consent from the customers involved.

Operator of last resort scheme

In the draft report the Commission raises the possibility that parties may wish to compete to provide operator of last resort (OoLR) services. Essential Energy questions whether there is a reasonable prospect of a competitive market for these services developing, particularly in regional and remote areas. If the Commission has evidence to support the development of a competitive OoLR market it should be provided.

In the absence of a competitive market for OoLR services it should be acknowledged that the local network service provider (LNSP) is most likely to be the default or fallback OoLR provider. The scheme design should therefore consider how the appropriate incentives and safeguards can be put in place to protect the DNSP's customers from bearing the risk and costs involved with third-party SAPS operating in their service territory.

As noted in our submission to the consultation paper, if the LNSP is the party that is designated as the operator of last resort (or is the default last resort operator if a competitive market for these services does not develop) a number of factors would need to be considered:

- The LNSP should have information about the technical specifications of the SAPS if it is to be responsible for taking over operation in the event of insolvency of the third-party provider. This is particularly critical for the types of technology involved, as the upfront design and investment decisions greatly affect the ongoing performance and maintenance cost of a SAPS compared to the populations of assets currently under management of DNSPs.
- The framework should consider how to align the incentives experienced by SAPS providers to ensure they are incentivised to not only implement SAPS, but to also design the systems considering the life cycle costs of SAPS supply.[3]
- The reliability standard that the LNSP would be required to meet would need to be considered. The LNSP should only be required to meet the reliability standard agreed between the third-party microgrid provider and the customers in that microgrid.
- Arrangements should be in place for the LNSP to recover any costs associated with being the operator of last resort. There are precedents for this in the current regulatory framework as any costs associated with the retailer of last resort (ROLR) arrangements are subject to pass-through provisions.

[3] The context Essential Energy considers this in is the likely availability of upfront public funding for the development of community SAPS, with a much lower level of support for the ongoing operation and maintenance of SAPS.

- It is important that the third-party SAPS provider should bear some cost for an operator of last resort scheme. If there is no cost to the SAPS provider there may be issues related to moral hazard because third-party SAPS providers would know that another party would step in in the event of their failure. This may incentivise operators to take risks that they would otherwise not take if they knew there would be consequences from becoming insolvent. The regulatory framework should not incentivise short-term business models that are not in the long-term interests of consumers.
- The LNSP's customers should not bear any cost associated with the third-party SAPS. This would be an unfair cross-subsidy between customers. The costs associated with establishing the operator of last resort scheme could be levied as part of the registration or licencing process for third-party SAPS providers.

One additional question that requires consideration is whether a DNSP would be able to provide OoLR services for a category 2 SAPS. The Commission notes that an OoLR for such a system "would need to cover the full supply chain". However, under the proposed arrangements under priority 1 of this review a DNSP would not be allowed to provide a vertically integrated SAPS service to customers. The Commission has determined that for priority 1 SAPS, the generation services need to be ring-fenced. It is not clear if this ring-fencing requirement would apply should a DNSP take over operation of a category 2 third-party SAPS, and, if so, what the transitional arrangements would be. The Commission should clarify this point when further considering the design of the OoLR scheme.

Given the uncertainty that remains over the scheme design, further consultation is needed. Input from DNSPs and other stakeholders is required to inform whether a competitive market for these services is viable and, if not, to inform the design of a DNSP OoLR scheme that addresses the issues raised above.

Further consultation is required on the detail of the proposed framework

Throughout the report the Commission states that it will further consider more detailed aspects of the proposed regulatory arrangements in "the next stage of the review". Essential Energy understands that the next stage of the review is the publication of a final report and is concerned that many elements of the proposed regulatory framework may not be subject to meaningful stakeholder consultation.

These include:

- The criteria to be used to determine which category a given third-party SAPS would fall into.[4]
- The most appropriate means of imposing conditions on category 3 third-party SAPS, whether through exemptions or licences.[5]
- Further detailed design of the operator of last resort scheme, including the process for appointing a last resort operator and ensuring an appropriate risk allocation.[6]
- The design and governance of the proposed "coverage test" to determine which microgrids are large enough to fall into category 1 and therefore be subject to proposed access regime.[7]
- More detailed exploration of the appropriate economic regulation to apply to each category of SAPS, in particular the form of regulation for category 2 SAPS.[8]
- More detailed exploration of the consumer protections to apply for all categories of SAPS, particularly for categories 2 and 3.[9]

[4] AEMC, Review of the regulatory framework for stand-alone power systems – priority 2, draft report, 27 June 2019, p.37.

[5] Ibid p.56.

[6] Ibid p.56.

[7] Ibid, p.72.

[8] Ibid, p.82.

[9] Ibid, p.94.

- Consideration of whether reliability measures for independent generation (in category 1 SAPS) are required.[10]
- Consideration of the reliability of category 2 SAPS, providing some recommendations on reliability measures that would apply.[11]

As discussed above, one of the most significant features of the regulatory framework, the criteria for determining what category a third-party SAPS will fall into has not been discussed in any detail.

Other features such as reliability and consumer protection obligations are also integral parts of any electricity regulatory regime. Until the detail of the entire regulatory framework has been provided, stakeholders will not be able to provide meaningful and informed feedback.

These issues are significant and will require more detailed engagement and comment from stakeholders. The Commission notes that it will consider the need for stakeholder workshops, forums or further consultation after it has received submissions. However, given the complexity of the issues that will require further consideration, another round of formal consultation should be undertaken as well as forums and workshops.

[10] Ibid, p.101.

[11] Ibid, p.102.

Case studies – regulatory arrangements for different supply models under recent AEMC decisions

Scenario 1:

3rd Party Microgrid (Category 2 third-party Stand-Alone Power System)

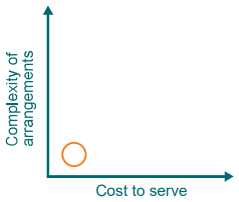
Customers

1000 customers

Customer drivers

- Energy affordability
- Reliability
- More control over energy

Regulatory Context



3

Parties involved

- Customers
- Stand-Alone Power System provider
- Jurisdictional regulator

Access to electricity supply

- Customers access electricity supply via a Stand-Alone Power System.
- The risk to consumers in the event of a major network incident is **high** due to the number of connected customers.

Benefits

- Only one licence required from jurisdictional regulator
- Vertical integration provides a cost-effective business model – lower cost of regulation
- Customer consent required so provider must engage closely with customers

Risks

- No access to retail competition or choice of provider
- Licensing arrangements may diverge over time and across jurisdictions
- Not clear how identified issues with performance or reliability would be rectified
- Customer outcomes may be different from grid-supplied customers or customers under other scenarios.

Scenario 2:

Retirement Village (embedded network*)

*established after 1 December 2017

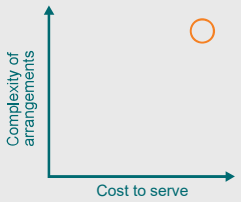
Customers

100 customers

Customer drivers

- Energy affordability
- Reliability
- Transparency

Regulatory Context



8

Parties involved

- Customers
- Embedded Network Service Provider
- Distribution Network Service Provider
- Parent retailer
- Off-market retailer
- NEM retailers serving on market child connection points
- Australian Energy Market Operator
- Australian Energy Regulator

Access to electricity supply

- Customers access electricity supply via an embedded network.
- The risk to consumers in the event of a major network incident is **medium** due to the number of connected customers.

Benefits

- Better life support protection
- Better reliability and safety standards
- More price certainty
- Access to retail competition
- Better consumer protections

Risks

- Arrangements are administratively complex and costly
- Transition costs to comply with new arrangements are high
- There are many parties involved in this supply model compared to customer impact
- Retirement village owners have limited experience with energy market regulation.

Scenario 3:

Caravan Park (with 8 permanent residents)

*established after 1 December 2017

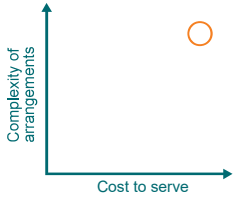
Customers

8 customers

Customer drivers

- Energy affordability
- Reliability
- Safety

Regulatory Context



8

Parties involved

- Customers
- Embedded Network Service Provider
- Distribution Network Service Provider
- Parent retailer
- Off-market retailer
- NEM retailers serving on market child connection points
- Australian Energy Market Operator
- Australian Energy Regulator

Access to electricity supply

- Customers access electricity supply via an embedded network..
- The risk to customers in the event of a major network incident is **low** due to the number of connected customers.

Benefits

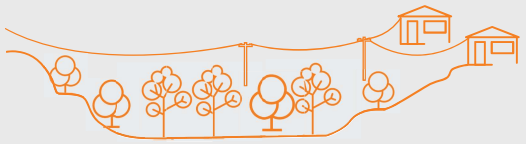
- More price certainty
- Better reliability and safety standards
- Access to retail competition
- Better consumer protections (including hardship provisions).

Risks

- Arrangements are administratively complex and costly
- Transition costs to comply with new arrangements are high, particularly for metering
- There are many parties involved in this supply model compared to customer impact
- Caravan park owners have limited experience with energy market regulation.

Scenario 4:

Two premises in a heavily vegetated area who will be transitioned to a Stand-Alone Power System by their Distribution Network Service Provider



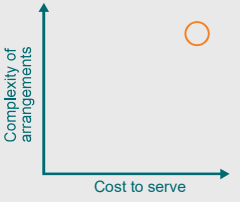
Customers

2 customers

Customer drivers

- Energy affordability
- Reliability

Regulatory Context



8

Parties involved

- Customers
- Distribution Network Service Provider
- Stand-Alone Power System generator
- Retailer
- Australian Energy Market Operator
- Australian Energy Regulator

Access to electricity supply

- Customers access electricity supply via a Stand-Alone Power System.
- The risk to customers in the event of a major network incident is **low** due to the number of connected customers.

Benefits

- Customers reliability improved
- Lower network charges for all
- Customer has access to retail competition
- No impact on competitive generation market (although not clear if competition is feasible in this area).

Risks

- Regulatory arrangements impose unnecessary cost
- Operation and maintenance managed by third-party that may not be located in the area
- Price signals may not be suited to SAPS supply
- Fault and emergency response may not be as timely as if performed by the DNSP

Appendix: Analysis of scenarios under recent regulatory decisions

Case studies – regulatory arrangements for different supply models under recent AEMC decisions

Scenario 1: A town with 1,000 customers that will transition to a third-party microgrid

Brief description:

A town of 1,000 customers is to be taken off grid by a SAPS operator that is operating in the competitive market. In order to transition these customers to off-grid supply, the SAPS operator gained explicit informed consent from all residents in the town. The SAPS operator also negotiated with the local DNSP to transfer all assets required for the microgrid and to compensate them for any stranded assets as a result of off gridding this community. The DNSP has removed all network assets no longer required as a result of this transfer, and these assets have been removed from the RAB following a process overseen by the AER.

The microgrid is a Category 2 third-party SAPS under the AEMC's proposed regulatory framework.

What these customers care about:

Energy affordability – like all customers they have seen their energy bills increase and would like to see a reduction, or at least a stabilisation, in their bills.

Reliability – These customers are willing to forgo some reliability in exchange for a lower energy price. The SAPS provider has agreed to a reliability standard that is below that required of a DNSP in exchange for keeping prices low. This agreement was included in the consent provided by the customers when the microgrid was established.

Control – The move to a microgrid operated by an independent SAPS operator was in part motivated by dissatisfaction with the current energy market. Customers agreed to move to the microgrid because of the perception that they would have more control over their energy supply and the cost of energy.

Regulatory arrangements to supply these customers:

A vertically integrated supply model is considered to be most efficient for this type of SAPS. The customer numbers involved are said to be too small to sustain competition in either generation or retail sectors. The SAPS provider must obtain a licence from the relevant jurisdictional regulator that covers generation, network and retail functions within the SAPS.

The licence conditions will be determined based on the risks involved and will cover:

- Obligations to connect new customers and micro-embedded generation;
- Price monitoring and requirements to inform customers of price changes;
- Consumer protections:
    - Contract terms and conditions;
    - Informed consent requirements;
    - Billing, tariff and payment minimum requirements;
    - Disconnection and reconnection obligations; and
    - Protections for vulnerable customers.
- Reliability standards and requirements to rectify poor performance;
- Metering arrangements;

- Access to concessions and rebates and energy ombudsman schemes; and
- Safety and technical requirements.

There is no role for the national market bodies AEMO or the AER in this model. This regulatory model is distinct from the others as it requires jurisdictional regulators to design and administer most of the regulatory arrangements. The regulatory framework operates mostly outside of the national electricity laws and rules framework. The national framework has a transparent process for changing the rules, including the ability for any party to submit a rule change and a statutory rule change process that includes requirements to consult with stakeholders. The process for changing jurisdictional arrangements is less clear. There is a risk that the regulatory arrangements for SAPS customers and NEM customers will diverge over time and across jurisdictions.

Parties involved:

- Customers (1,000)
- SAPS provider
- Jurisdictional regulator

Proportionality of the regulatory arrangements:

The regulatory arrangements were designed to be least cost and proportionate to the risks involved with the provision of energy services through a third-party SAPS. It is the only model where vertical integration is allowed (for generation, network and retail functions). This is also the only model where there is no role for AEMO and the AER but rather most of the requirements are imposed by the relevant jurisdictional regulator.

The licence granted by the jurisdictional regulator covers all activities in the supply chain, generation, network and retail. For an embedded network separate registration and authorisation is required for network and retail functions (see scenarios 2 and 3).

Given that all the functions are performed by the same competitive provider, these customers may be vulnerable if the SAPS provider goes out of business. This risk is to be managed by an operator of last resort scheme, the details of which are yet to be provided. Continuity of supply will be a key issue for these customers in the event of the failure of the SAPS provider.

The ability for customers in the SAPS to vary arrangements from those that apply to grid-supplied customers is justified on the basis that customers will have to provide explicit informed consent. However, there may some concerns regarding the ability of consumers to make informed decisions and trade off different elements such as price and reliability. There may be significant informational asymmetries between the SAPS provider and its customers.

There is also an issue regarding how the system will perform over time. The SAPS may be designed at a specific point in time, with specific circumstances in mind. Some issues that may arise over time may include:

- Customers may require life support protections that were not envisaged at the time the microgrid was established.
- New residents may move to the town who may not be fully informed of the implications of having their energy supplied by a third-party SAPS provider.
- If load increases over time, the SAPS provider should be required to upgrade the system accordingly to maintain an agreed reliability standard.
- Ensuring that reliability is maintained over time as the system ages and ensuring that the system is replaced in a timely manner.

There is a risk of divergence between the consumer protections for grid-supplied and embedded network customers under the NERL and NERR and SAPS customers over time and across jurisdictions. One example of this may be provisions regarding life support customers.

Scenario 2: A retirement village with an embedded network established after 1 December 2017, with 100 residents

Brief description:

A retirement village with 100 customers that was established as an embedded network after 1 December 2017 under the previous rules. The retirement village owners established the embedded network to provide their residents with a cheaper energy supply and as an additional revenue stream for the owners. Energy is not the chief concern of the owners of the facility and they have limited knowledge or experience of the wholesale electricity market.

What these customers care about:

Energy affordability – these customers are on fixed incomes and increases in energy prices have a direct impact on their standard of living. Some residents have raised concerns regarding the costs of their energy supply and the lack of transparency regarding the price they are being charged by the retirement facility.

Reliability – many residents in the facility have life support equipment so reliability of supply a concern. Some instances where there have been outages without prior warning.

Transparency – as these customers are served by an embedded network, they have not had access to redress through ombudsman schemes. Some desire for greater understanding of the price they are being charged and notice of price increases.

Regulatory arrangements to supply these customers:

As this embedded network was established after 1 December 2017 it is required to transition in full to the new regulatory arrangements for embedded networks. The retirement village will be required to undertake this transition within two years of the regulatory framework coming into effect (likely in early 2020s).

The retirement village previously held an exemption from being a retailer and a distribution network from the AER. Under the new regulatory framework, they now must register as an embedded network service provider (ENSP) and as an off-market retailer. Alternatively, they can contract with a third-party (or parties) to provide these services on their behalf.

The retirement village will have to upgrade all child meters in the network with NEM compliant meters. They (or the off-market retailer) must procure the services of a Metering Coordinator to do this on their behalf.

All child NMIs in the network must be discoverable in MSATS so that residents can choose to become the customer of a NEM retailer if they so wish. The option to go on market would increase competitive pressure on the off-market retailers and incentivise them to provide customers with competitive energy rates.

If a resident decides to go “on market” and sign on with a NEM retailer the ENSP must put arrangements in place to bill the retailers for their network charges. The ENSP is prohibited from charging the customer a network charge that is higher than the local distribution network’s charges (the “shadow connection charge”). The process for billing embedded network customers will be governed by an AEMO shadow charge procedure.

The off-market retailer in the embedded network will have many of the obligations that apply to authorised retailers in the NEM, including the NERL and NERR. These obligations include hardship provisions, energy marketing rules, obligations regarding life support customers, access to ombudsman schemes and the retailer of last resort (ROLR) scheme.

The differences between a NEM retailer and an off-market retailer include:

- the off-market retailer will be able to vary standing offers more often than once every 6 months; and
- the off-market retailer is exempted from publishing variations of offers via newspaper.

In terms of reliability standards, it has been recommended that jurisdictional regulators consider how existing reliability standards can be extended to embedded networks. This is likely to require monitoring and reporting by the ENSP.

Parties involved:

- Customers (100)
- ENSP
- DNSP
- Parent retailer
- Off-market retailer
- NEM retailers serving on market child connection points
- AEMO
- AER

Proportionality of the regulatory arrangements:

The new regulatory framework for embedded networks will impose significant upfront and ongoing costs on the owner of the retirement village. A number of new functions will have to be performed by the owners or procured via contracts. These include:

- metering – initial upgrade and ongoing metering costs;
- billing;
- administrative costs of authorisation as an off-market retailer;
- administrative costs of registering as an ENSP;
- increased consumer protection requirements;
- membership of an ombudsman scheme;
- systems changes required to comply with life support requirements; and
- system changes required to monitor and improve reliability (likely cost if reliability standards extended to ENSPs).

While costly, the new regulatory arrangements will provide benefits to the residents. These include:

- The ability to choose to move to a new retailer, if they so wish.
- More accurate billing through better metering.
- More visibility and transparency on prices.
- Better life support protections.
- Access to energy ombudsman schemes.

A detailed cost benefit analysis of the changes to the regulatory framework for embedded networks has not been provided. The costs of running a small embedded network, such as the one used in this example will increase. It is not clear if the associated benefits (where quantifiable) would outweigh these costs.

Scenario 3: A caravan park established after December 2017 with a small number of permanent residents

Brief description:

This scenario relates to a caravan park on the outskirts of a regional town whose primary business is holidaymakers staying for a short period time. The park also has a small number (8) permanent residents on the site, but this is not the main income stream for the park's owners. The park was established as an embedded network under the previous regulatory framework for embedded networks. This was because the park owners have some experience with electrical work and considered an embedded network was a way to keep costs down and earn an additional revenue stream. The owners have limited knowledge of or interest in energy regulation and limited time for increased administrative burden.

What these customers care about:

Energy Affordability – Many of the residents are on low incomes and have experienced issues with keeping up with their bills in the past. They would be classed as vulnerable customers. Increases in energy costs have a big impact on these customers financial position. Keeping their bills as low as possible is a primary concern for residents.

Reliability – There have been instances in the past where interruptions to power supply has not been rectified in a timely manner. Residents in the park feel that they have no recourse when issues with their supply arise and rely on the owners fixing the problem as quickly as they can.

Safety – as the network is maintained by the owners there have been some concerns about safety and repairs not being completed to a high enough standard. Residents are unclear as to what safety standards apply and how they can resolve identified issues.

Regulatory arrangements to supply these customers:

As this embedded network was established after 1 December 2017 and has permanent residents it is required to transition in full to the new regulatory arrangements for embedded networks. The caravan park will be required to undertake this transition within two years of the regulatory framework coming into effect (likely in early 2020s).

If the caravan park only catered to holidaymakers staying for a short period of time they would not fall under the new arrangements. The park's owners considered whether it could ask the residents to leave to avoid the regulatory burden but decided against it. The residents would find it difficult to find alternative accommodation in the area if they were forced to leave the park.

The caravan park previously held an exemption from being a retailer and a distribution network from the AER. Under the new regulatory framework, they now must register as an embedded network service provider (ENSP) and as an off-market retailer. Alternatively, they can contract with a third-party (or parties) to provide these services on their behalf.

The caravan park will have to upgrade all child meters in the network with NEM compliant meters. They (or the off-market retailer) must procure the services of a Metering Coordinator to do this on their behalf. This is an issue for the caravan park as many of the meter boards installed on the site are too small to accommodate a smart meter. New meter boards and associated changes to installations are required at additional cost.

All child NMIs in the network must be discoverable in MSATS so that residents can choose to become the customer of a NEM retailer if they so wish. The option to go on market would increase competitive pressure on of- market retailers and incentivise them to provide customers with competitive energy rates.

If a resident decides to go "on market" and sign on with a NEM retailer the ENSP must put arrangements in place to bill the retailers for their network charges. The ENSP is prohibited from charging the customer a network charge that is higher than the local distribution network's charges

(the “shadow connection charge”). The process for billing embedded network customers will be governed by an AEMO shadow charge procedure.

The off-market retailer in the embedded network will have many of the obligations that apply to authorised retailers in the NEM, including the NERL and NERR. These obligations include hardship provisions, energy marketing rules, obligations regarding life support customers, access to ombudsman schemes and the retailer of last resort (ROLR) scheme.

The differences between a NEM retailer and an off-market retailer include:

- the off-market retailer will be able to vary standing offers more often than once every 6 months; and
- the off-market retailer is exempted from publishing variations of offers via newspaper.

In terms of reliability standards, it has been recommended that jurisdictional regulators consider how existing reliability standards can be extended to embedded networks. This is likely to require monitoring and reporting by the ENSP.

Parties involved:

- Customers (8 permanent residents)
- ENSP
- DNSP
- Parent retailer
- Off-market retailer
- NEM retailers serving on market child connection points
- AEMO
- AER

Proportionality of the regulatory arrangements:

The new regulatory framework for embedded networks will impose significant upfront and ongoing costs on the owner of the caravan park. A number of new functions will have to be performed by the owners or procured via contracts. These include:

- Metering – initial upgrade and ongoing metering costs;
- billing;
- administrative costs of authorisation as an off-market retailer;
- administrative costs of registering as an ENSP;
- increased consumer protection requirements;
- membership of an ombudsman scheme;
- systems changes required to comply with life support requirements; and
- system changes required to monitor and improve reliability (likely cost if reliability standards extended to ENSPs).

While costly, the new regulatory arrangements will provide benefits to the residents. These include:

- The ability to choose to move to a new retailer, if they so wish.
- More accurate billing through better metering.
- More visibility and transparency on prices.
- Better life support protections.
- Access to energy ombudsman schemes.

A detailed cost benefit analysis of the changes to the regulatory framework for embedded networks has not been provided. The costs of running a small embedded network, such as the one used in this example will increase. It is not clear if the associated benefits (where quantifiable) would outweigh these costs.

Scenario 4: Two premises in a heavily vegetated area who will be transitioned to a SAPS by their DNSP

Brief description:

These two customers are located on a 6km long spur through heavily vegetated and hard-to-access land in an area that is subject to frequent storms and high rainfall. The spur to the residence has only two customer connection points. The spur traverses a P1 bush fire zone through swampy and densely vegetated national park with poor vehicle access making fault and emergency responses time-consuming and potentially dangerous.

This spur is very expensive for the local distributor to operate and maintain. Over a 9-year period the network has spent over $100,000 to maintain the spur and over $150,000 on vegetation management. Customers located on this part of the network are heavily cross subsidised by other network users.

The DNSP has identified these customers as suitable candidates for a SAPS so that the spur can be removed and network charges for all customers will be reduced.

What these customers care about:

Reliability – these customers, owing to their location, have experienced significant outages and have had much worse reliability outcomes than most customers. This spur has seen in excess of 25 outages and a combined outage time of over 70 hours over a nine-year period. Improving the reliability of their supply is a major concern for these customers.

Energy affordability – like all customers they have seen their energy bills increase and would like to see a reduction, or at least a stabilisation, in their bills.

Regulatory arrangements to supply these customers:

The DNSP identifies these customers as being suitable for a SAPS in order to reduce overall network charges. The DNSP must engage extensively with these customers (and demonstrate that this engagement has taken place) about the transition to supply by a SAPS. The DNSP monitors the customers' consumption and advertises for a SAPS solution that would meet the customer's demand.

The SAPS system must be provided by a competitive SAPS generator, as DNSPs are restricted by ring-fencing requirements from providing this service. The operation, maintenance and rectification of faults on the SAPS system is managed through contractual arrangements between the DNSP and the SAPS generation provider.

The customers' energy use is metered and settled through the wholesale market by AEMO. Because this generation is generated onsite it is separated in AEMO systems from the wholesale pool and settled at an administered generation price, rather than the wholesale price. As the SAPS generation is settled through the wholesale market settlement system the generator would have to register with AEMO.

The customer would continue to have access to the retail market and can choose any market offer available to grid-supplied customers.

Parties involved:

- Customers (2)
- DNSP
- SAPS generator
- AEMO

- Retailer
- AER

Proportionality of the regulatory arrangements:

Vertical integration is said to be the most cost-effective model for small SAPS systems (according to decision for third-party SAPS). However, because of regulation the DNSP is precluded from providing a vertically integrated solution, despite the low risk and small number of customers. Preserving the competitive market and preventing DNSPs from owing generation is deemed to be a higher regulatory priority than reducing costs for all customers.

Higher cost regulatory model than the third-party SAPS, despite fewer customer numbers and negligible impact on the competitive market. The imposition of ring-fencing requirements on DNSPs increase administrative costs and risks. The costs imposed by regulation mean that the overall benefits to customers as a result of moving these customers to a SAPS are not maximised.

Prohibiting DNSPs from owning, operating, maintain and rectifying faults in SAPS generation assets may have an adverse impact on reliability outcomes. This is particularly the case in regional and remote areas where the SAPS generation provider may not have a physical presence. This would increase the cost of maintenance and may lead to longer waiting times to rectify faults.

Preserving a link to the wholesale market means that priority 1 SAPS customers are likely to be provided with price signals that have been designed with wholesale market dynamics in mind. This would mean cheaper rates for morning and overnight and more expensive rates during the evening peak. These price signals do not match the cost dynamics of a SAPS. In a SAPS it is cheapest to consume energy in the middle of the day, when the solar output is greatest and most expensive to consume energy overnight when the system is running from batteries or the diesel generator.