AEMC

REVIEW

Australian Energy Market Commission

DRAFT REPORT

UPDATING THE REGULATORY FRAMEWORKS FOR DISTRIBUTOR-LED STAND-ALONE POWER SYSTEMS

19 DECEMBER 2019

INQUIRIES

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ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

SUMMARY

1 This report presents the Commission's draft recommendations for a package of proposed rules to implement a new regulatory framework for stand-alone power systems (SAPS) provided by distributors in the National Electricity Market (NEM).

2 The rule package would give effect to the high-level recommendations made in the Commission's earlier priority 1 report for its *Review of the regulatory frameworks for stand-alone power systems*, which also contained drafting instructions for changes to national energy laws.

3 In that report, the Commission recommended the implementation of new regulatory arrangements that would allow NEM distributors to use stand-alone power systems where it would be economically efficient to do so. The arrangements would closely follow existing national energy frameworks to enable customers receiving stand-alone systems to retain all of their current consumer protections, including access to retail competition and existing reliability standards, such that they would not be disadvantaged where a distributor determined that it would be more cost-effective to supply them on a stand-alone basis.

4 Following consultation on this draft report, the Commission will prepare and submit a final report and package of rules to the COAG Energy Council. The new framework can then be implemented by the Energy Council amending the national energy laws based on the Commission's instructions, and these being passed through the South Australian parliament. The proposed rule changes will then be made by the South Australian minister. Following the enactment of this package of law and rule changes, jurisdictions may also need to make amendments to jurisdictional instruments, and the Australian Energy Market Operator (AEMO) and the Australian Energy Regulator (AER) will require a transitional period to consult on and update relevant procedures and guidelines.

Background

5 A SAPS is an electricity supply arrangement that is not physically connected to the national grid. The Commission uses the term to encompass both microgrids, which supply electricity to multiple customers, and individual power systems, which relate only to single customers.

6 Currently, the national energy laws and rules only apply to the interconnected electricity grid on the east coast of Australia that forms the NEM.[1] Where there are stand-alone systems not connected to this grid, generally in remote areas, these are subject to regulation by states and territories at the jurisdictional level.[2]

7 Some states with significant numbers of stand-alone power systems have relatively well-developed regulatory frameworks. However, other jurisdictions, notably those without SAPS (or with relatively few SAPS), do not. In such jurisdictions, customers being supplied by stand-alone systems may not be covered by appropriate consumer protections. Jurisdictional

1 Certain elements of the national laws and rules also apply to the three largest electricity systems in the Northern Territory.
2 Note that Queensland applies some national regulation to stand-alone power systems.

regulation is also not well suited to circumstances where NEM distributors seek to supply their current network customers on a stand-alone basis.

8 Changes in technology and technology costs are leading stand-alone power systems to become an increasingly viable option for providing electricity services to customers. Consequently, enhancements to the regulatory framework are required to allow customers to take advantage of new technology and approaches, and enable the adoption of future advancements in technology.

9 Given these drivers, in August 2018, the COAG Energy Council asked the Commission to undertake a review of the regulatory arrangements for SAPS under the national energy laws and rules. This review - the *Review of the regulatory frameworks for stand-alone power systems* - was split into two priority areas:

- priority 1, focussing on the development of a national framework for customers that move from grid-connected supply to stand-alone systems provided by NEM distributors
- priority 2, focussing on the development of a national framework to support the supply of electricity from SAPS provided by parties other than NEM distributors.

10 A final report for distributor-led SAPS under priority 1 was published on 30 May 2019, and a final report for priority 2 - setting out the recommended regulatory framework to apply to third-party SAPS - was published on 31 October 2019. In both cases, the reports contained drafting instructions for changes to national energy laws but noted that further work would be required to develop detailed rules drafting.

Approach

11 On 19 September 2019, the Commission self-initiated and published terms of reference for a review into *Updating the regulatory frameworks for distributor-led stand-alone power systems.* The purpose of the review is to provide advice to the COAG Energy Council on the detailed amendments to the regulatory framework that are required to implement the recommendations made by the Commission in its priority 1 final report on distributor-led SAPS.

12 The package of proposed draft rule changes presented in this report has been developed on the basis that the National Electricity Law (NEL) and National Energy Retail Law (NERL) will be amended in accordance with the changes the Commission recommended in the priority 1 final report. The COAG Energy Council's Senior Committee of Officials (SCO) advised the Commission that it supported the Commission commencing this work to advise on detailed revisions to the National Electricity Rules (NER) and the National Energy Retail Rules (NERR) to implement the Commission's recommendations.[3]

13 The Commission's priority 1 recommendations were considered and approved by the COAG Energy Council at its meeting on 22 November 2019. In its formal response, the Energy Council noted that the Commission had already started developing advice on a package of

3 On the 10 September 2019 the Chair of SCO's Stand-Alone and Embedded Networks Working Group wrote to the AEMC requesting the development of advice on detailed revisions to the NER and NERR required for the recommendations on SAPS to take effect.

rule changes, and would provide a draft report in December 2019.[4]

14 The rules drafting presented in this report is consistent with, and builds on, the Commission's earlier recommendations. The report focusses on three key areas:

- Service delivery model - the arrangements needed to support the financial settlement of SAPS load and generation through AEMO's systems, and thereby support retail competition. This section also considers the payments made by distributors to SAPS generators, and how the expenditure and revenue associated with these payments would be treated.
- SAPS settlement price - the design of an administered price to be paid by retailers to AEMO, and then by AEMO to SAPS generators, in settlement. The design is intended to allow retailers to adequately manage risks associated with serving SAPS customers and to avoid exposing SAPS customers to irrelevant price signals from the wholesale market.
- Service classification - the approach to the classification of services provided by means of a SAPS distribution system for regulatory purposes. This section also considers issues related to the provision of generation services by distributors given the AER's approach to ring-fencing.

15 The report also contains a number of appendices, covering issues which have required less additional work to develop rules drafting. For example, the Commission has maintained its approach to network planning and customer engagement, where the recommendations were specified in some detail in the priority 1 final report.

16 The final appendix contains draft rule descriptions which provide additional detail on each proposed change to the rules. It should be noted that the rule drafting is based on a version of the rules incorporating other changes for which determinations have been made by the Commission but which have not yet been implemented, in particular the global settlement arrangements that will take effect from 6 February 2022.[5]

Implementation and next steps

17 In developing the package of proposed draft rule changes, the Commission has given further consideration to the appropriate pathway for implementation of the changes. A comprehensive implementation plan is included in Chapter 6 of this report.

18 Implementation of the recommended framework will require the implementation of changes to both the national energy laws and rules, and also to some jurisdictional legislative instruments.

19 The Commission intends to submit its final recommendations on the package of rule changes to the COAG Energy Council in May 2020. Consequently, the rule changes could then be made by the South Australian minister in mid-2020, following agreement by the COAG Energy Council to law changes and their passage through the South Australian parliament.

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4 COAG Energy Council, *Australian Energy Market Commission Review of the Regulatory Frameworks for Distributor-led Stand-Alone Power Systems - Priority 1 Final Report*, Response, p. 4.

5 The Commission intends to give further consider to transitional arrangements to apply in the period between implementation and 6 February 2022.

The full framework could then take effect by mid-2021, subject to jurisdictions finalising all necessary jurisdictional arrangements.

20 Jurisdictional governments and regulators will need to review and amend relevant jurisdictional legislative instruments to support and ensure consistency with the recommended framework. This report provides a high-level overview to jurisdictions on the key issues they will need to consider in areas such as technical regulation and performance standards.

21 Jurisdictions will have the ability to opt-in to the national regulatory framework. Once a jurisdiction has made appropriate changes to any relevant jurisdictional instruments (for instance reliability standards and NERL application acts), the opt-in could be triggered and the national arrangements to support the deployment of SAPS by distribution in that jurisdiction would then be enabled.

22 A final step before full implementation will give AEMO and the AER a transitional period to consult on and update relevant procedures and guidelines. As with all its work, the Commission has worked collaboratively with AEMO and the AER to identify and consider the issues that will impact upon them.

23 One particular issue identified in discussions between the Commission and the AER is the potential application of the waiver process set out in the AER's ring-fencing guideline and the suitability of this process in the context of SAPS. The AER has indicated that it intends to publish an explanatory note concurrently with this report, which aims to provide distribution businesses with transparency of, and certainty around, the waiver application process in respect of distributor-led SAPS. Among other things, the note is intended to address matters such as how best to engage with the AER in applying for a waiver from the ring-fencing obligations, and the evidence distributors would be expected to provide to the AER to support an application.

24 Written submissions from stakeholders commenting on the matters raised in this draft report are requested by **13 February 2020**. Stakeholders are also welcome to submit their views on the AER's explanatory note — for consideration by the AER — in their submissions to this draft report.

25 The Commission further intends to hold a joint stakeholder workshop in late January 2020 to allow stakeholders to discuss matters arising from both this report and the AER's explanatory note.

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1 INTRODUCTION

In August 2018, the Australian Energy Market Commission (AEMC or Commission) was asked by the Council of Australian Governments Energy Council (COAG Energy Council) to undertake a review of the regulatory arrangements for standalone power systems under the national energy laws and rules.

Under the terms of reference, the review was split into two priority areas:

- priority 1, focussing on the development of a national framework for customers that move from grid-connected supply to stand-alone power systems (SAPS) provided by Distribution Network Service Providers (DNSPs)
- priority 2, focussing on the development of a national framework to support the supply of electricity from SAPS provided by parties other than DNSPs.

A final report for priority 1 was published on 30 May 2019. In addition to the key recommendations to facilitate use of SAPS by DNSPs, this also contained recommendations for amendments to the National Electricity Law (NEL) and National Energy Retail Law (NERL) to allow the rules to appropriately regulate the provision of SAPS by DNSPs.

The Commission published a final report on priority 2 of the review on 31 October 2019, which sets out the Commission's recommendations for the regulatory framework that should apply to third-party SAPS. The report also contained detailed information on the changes required to the national energy laws to implement the recommendations.

In this report, the Commission presents advice on a proposed package of rule changes to implement the regulatory framework outlined in the final report for the priority 1 review.[6]

This chapter outlines the following:

- the purpose of the current review
- the context for the review and terminology used in the report
- the terms of reference for the review
- ongoing and recently completed work in relation to stand-alone power systems (SAPS).

1.1 Purpose of the review

Essential to the Commission's recommended framework in the priority 1 final report is that changes to energy laws and rules should support the efficient delivery of SAPS by distributors while preserving consumer protections comparable to those afforded to customers supplied via the interconnected grid.[7]

In particular, the Commission's recommendations in the priority 1 final report aimed to support efficient and transparent investment decisions to allow DNSPs to supply their existing

6 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, final report, 30 May 2019.

7 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, final report, 30 May 2019. See p. viii- xii for a more detailed overview of the Commission's rationale.

customers via SAPS, where these offer a lower cost substitute to investing in, and maintaining, traditional network solutions.

The proposed framework also aimed to ensure that customers who receive SAPS will retain all of their existing consumer protections, including access to retail competition and existing reliability standards. As such, individual customers would not be disadvantaged where a DNSP determined that it would be more efficient to supply them on a stand-alone basis. Further, cost savings arising from the use of lower cost stand-alone systems would flow through to all distribution network users, through lower network prices.

In developing advice for governments on a package of changes to the National Electricity Rules (NER) and the National Energy Retail Rules (NERR) to implement the proposed framework for the regulation of SAPS, the Commission has given consideration to how best to implement the recommendations made in the priority 1 final review. These recommendations included:

- removing existing barriers to enable DNSPs to provide SAPS using regulated distribution services
- amending planning processes to establish customer engagement obligations in relation to transition to SAPS, principally to support efficient planning and investment outcomes
- extending existing energy market arrangements, including the Australian Energy Market Operator's (AEMO's) settlement system, to accommodate DNSP SAPS, and charging retailers an administered SAPS settlement price (rather than the spot price) for energy. This will support the seamless transition of existing grid-connected customers to SAPS and enable SAPS customers to be left no worse off in terms of price and other contract conditions, following the transition to SAPS supply
- extending the full suite of energy-specific consumer protections in the NERL and NERR, to SAPS customers (noting that the ability to do this depends in part on changes to jurisdictional instruments)
- allowing participation by jurisdictions in the national arrangements for DNSP SAPS on an opt in basis.

Purpose of this draft report

This report presents the Commission's proposed draft package of changes to the national rules to implement the new approach for SAPS previously recommended by the Commission. The Commission published terms of reference for a review into *Updating the regulatory frameworks for distributor-led stand-alone power systems* on 19 September 2019. The package of proposed draft rule changes presented in this report has been developed on the assumption that the NEL and NERL will be amended in accordance with the changes the Commission recommended in the priority 1 final report. The intention is that this package of rule changes would be considered by the COAG Energy Council and if agreed to would be made by the South Australian Minister of Energy to commence at the same time as the recommended NEL and NERL changes.

The COAG Energy Council Senior Committee of Officials (SCO) has advised that it supported the Commission commencing this work to advise on detailed revisions to the NER and the

NERR to implement the Commission's recommendations.[8] The Commission's priority 1 recommendations were considered and approved by the COAG Energy Council at its meeting on 22 November 2019.

Consistent with the priority 1 final report, in developing the detailed advice on rules to apply the recommended framework for DNSP-led SAPS, the Commission has considered a number of areas where further clarification was required. These areas are dealt with in the body of this report and include the SAPS service delivery model, the approach to determining and implementing the SAPS settlement price (SSP), the appropriate classification of SAPS distribution and generation services and the proposed implementation plan.

1.2 Context

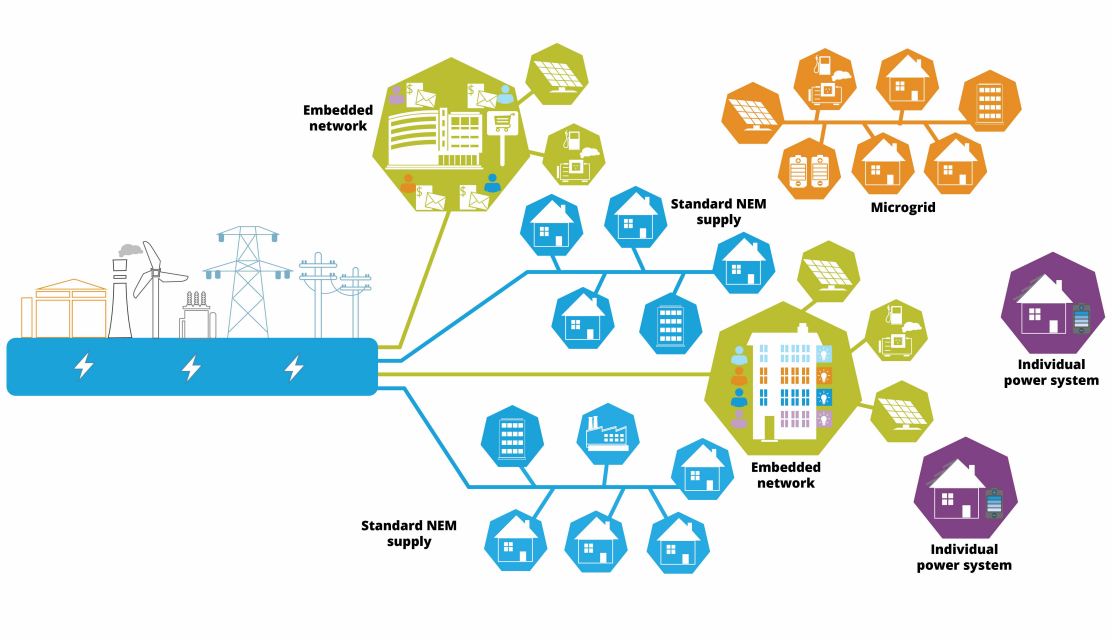
1.2.1 Definitions and concepts

For the purposes of the review, we consider there to be four possible models of electricity supply for customers:

- supply via the interconnected grid, which we refer to as 'standard supply'
- supply via an embedded network, which in turn is connected to the interconnected grid
- supply via a microgrid isolated from the interconnected grid, and
- supply via an individual power system (IPS), which only provides electricity to the customer in question.

8 On the 10 September 2019 the Chair of SCO's Stand-Alone and Embedded Networks Working Group wrote to the AEMC requesting the development of advice on detailed revisions to the NER and NERR required for the recommendations on SAPS to take effect.

Figure 1.1: Four models of electricity supply



This review focusses on power systems that are not connected to the interconnected grid. An electricity supply arrangement that is not physically connected (directly or indirectly) to the national grid can be referred to as a stand-alone power system (SAPS). Microgrids and individual power systems are both a form of stand-alone power system.

Microgrid

A microgrid is a SAPS that generates and supplies electricity to multiple customers. This could include anything from a large town to two farms connected to each other. Power may be supplied by a mix of local generation and storage, possibly combined with behind-the-meter generation and storage. Remote communities, island resorts and remote mining towns are often supplied by microgrids.

Individual power system

An individual power system (IPS) is a SAPS that generates and supplies electricity to a single customer. Typically, power is generated by a combination of renewable generation, energy storage and/or conventional diesel generators.

Embedded network

Microgrids and individual power systems are distinct from embedded networks. While embedded networks supply electricity to customers in a way that is an alternative to standard supply, they remain connected to the national grid (they may or may not have generation within the embedded network). An embedded network is a privately owned, operated or controlled electricity network, often within the bounds of a commercial or residential building

complex or other premises. The Commission self-initiated the *Updating the regulatory frameworks for embedded networks review* on 30 August 2018, and published a final report on 20 June 2019. The report describes and explains an accompanying package of drafting changes to the national energy laws and rules to implement the recommendations from the Commission's earlier *Review of the regulatory arrangements for embedded networks*.[9]

Box 1 explains key definitions used in this report.

BOX 1: KEY DEFINITIONS USED IN THIS REPORT

DNSP

A DNSP is the distribution network service provider, being the party that is responsible for the electricity distribution system in a particular geographical area. This area has been allocated by the authority responsible for administering the jurisdictional electricity legislation in the relevant participating jurisdiction. Under the current regulatory frameworks for electricity, DNSPs can generally only supply customers via the interconnected grid (standard supply) and are currently unable to supply customers' electricity via a SAPS.

DNSP-led SAPS

A DNSP-led SAPS is a stand-alone power system (which may be a microgrid or an individual power system) operated by a DNSP. These types of SAPS were the primary focus for priority 1 of the previous review, and this report.

Third party SAPS

These are SAPS that are managed by a party other than a DNSP. These types of SAPS were considered under priority 2 of the previous review. A final report which sets out the Commission's recommendations for the regulatory framework that should apply to third-party SAPS was published on 31 October 2019.

This report does not address third party SAPS.

Standard supply

Supply from the interconnected grid is the standard supply model for the vast majority of electricity consumers in national energy market (NEM) jurisdictions. In this model, a combination of large and small generators supply energy which is transported through interconnected transmission and distribution networks to consumers across the eastern seaboard. Competitive wholesale and retail markets allow for competition between providers and consumer choice. Regulated network businesses own and operate the monopoly network infrastructure for transmission and distribution of electricity.

9 AEMC, *Review of the regulatory arrangements for embedded networks*, final report, 28 November 2017.

1.2.2 National regulatory arrangements

National energy markets in Australia are governed by a combination of national and jurisdictional legislation and other regulatory frameworks. The Australian Energy Market Agreement (AEMA) is an agreement between the Australian government and the governments of all states and territories[10] which sets out the legislative, institutional and governance frameworks for energy regulation. The AEMA specifies the distribution and retail activities that are to be covered by national regulatory frameworks in NEM jurisdictions,[11] and those that are regulated under state and territory arrangements.

National functions include the economic regulation of distribution networks, arrangements for distribution network expansion and the authorisation of retailers.[12] The regulation of transmission networks and arrangements for the wholesale electricity market are also activities governed by national frameworks in NEM jurisdictions.

In general, national functions for electricity are governed through the NEL[13]and the NERL,[14] together with the associated regulations, rules, guidelines, procedures, standards and settings.

The NEL establishes, among other things, obligations on network service providers in the NEM. The National Electricity Rules (NER) support the NEL, and govern the operation of the wholesale electricity market, the economic regulation of services provided by monopoly transmission and distribution networks, the way in which AEMO manages power system security, and electricity connections for retail customers.[15]

The NERL regulates the supply and sale of energy to retail customers in the jurisdictions that have adopted it.[16] The National Energy Retail Rules (NERR) support the NERL, and govern the sale and supply of electricity and natural gas to residential and other small customers. They include key electricity consumer protection measures and contract terms and conditions. Customer connections, retail competition, energy-specific consumer protections and basic standard and market agreement terms and conditions are included in the rules.[17]

As the NEL and the NER are currently only applicable to interconnected systems, they do not apply to SAPS.[18] However, where a DNSP is nominated in the regulations of the relevant jurisdiction as the operator of a microgrid, certain provisions of the NER may apply to that DNSP.[19]

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10 COAG, Australian Energy Market Agreement (as amended December 2013).

11 The NEM interconnects five regional market jurisdictions: Queensland, New South Wales (including the Australian Capital Territory), Victoria, South Australia and Tasmania. Western Australia and the Northern Territory are not connected to the NEM.

12 Some elements of the national frameworks relating to retailers have not been adopted in Victoria.

13 Schedule to the *National Electricity (South Australia) Act 1996*.

14 Schedule to the *National Energy Retail Law (South Australia) Act 2011.*

15 The NER are published on the AEMC website, at https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules

16 It should be noted that Victoria has not adopted the NERL, and state-specific retail frameworks continue to apply in that state.

17 The NERR are published on the AEMC website, at https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules

18 Key terms that are used throughout the NEL and NER, including "network service provider" in the NEL and "distribution system" in the NER, are defined with reference to interconnected systems.

19 The Queensland Government has nominated Ergon Energy under s. 6A of the NEL such that Chapter 5A of the NER (on electricity connection for retail customers) applies to the SAPS operated by Ergon. The Electricity - National Scheme (Queensland) Regulation 2014 s. 4 excludes the Mount Isa-Cloncurry network, which is economically regulated by the AER under Chapters 6 and 11 of the NER pursuant to the *Electricity - National Scheme (Queensland) Act* 1997 s. 10.

In respect of the NERL and NERR, these instruments do not currently apply to SAPS established in New South Wales, South Australia or Tasmania. Certain provisions may apply to microgrids in Queensland and the Australian Capital Territory (unless the seller has an exemption).[20] In Victoria, the Energy Retail Code includes provisions which are equivalent to the NERL and NERR and so may also be applicable to SAPS (if the SAPS customers are supplied by a licensed retailer).

1.2.3 Jurisdictional regulatory arrangements

Currently, as SAPS are not (in general) captured under the national regulatory framework, they are subject to jurisdictional frameworks. These jurisdictional frameworks vary in their comprehensiveness, with state and territory regimes differing quite widely. Some states with significant numbers of stand-alone power systems have relatively well-developed regulatory frameworks, but other jurisdictions with no, or relatively few, such systems may not.

While the Commission is, in this report, recommending changes to the NER and NERR to bring DNSP-led SAPS into a national framework, there will remain regulatory functions for which jurisdictions, under the AEMA, have responsibility.[21] These functions will need to be reviewed by jurisdictions to provide a complete framework for consumers under the SAPS model of supply. These state and territory functions include DNSP technical and safety requirements, small customer dispute resolution, service reliability standards and the determination of distribution and retail service areas.

In the course of the priority 1 review, the Commission identified that certain changes to the jurisdictional functions are required to allow customers transitioned to a SAPS model of supply to receive protections equivalent to those of grid-connected customers.[22]

The terms of reference for the previous review noted that existing legacy SAPS (individual power systems and microgrids) which have been established and are currently operating under jurisdictional legislative frameworks need not be captured by the new national framework for SAPS.[23] However, there may be the potential for jurisdictions to bring existing SAPS systems under the Commission's proposed framework. Individual jurisdictions may consider if this is suitable to their needs.

1.2.4 Development of a framework for stand-alone power systems

SAPS are currently not generally captured under the national regulatory framework and are subject to jurisdictional legislative frameworks that vary in their completeness. Given changing technologies, it is important that changes to the national framework are made to allow the uptake of DNSP-led SAPS, where this is efficient. The distribution costs associated with supplying customers across the grid vary significantly, and increase as customer density

20 The Acts adopting the NERL in Queensland and the ACT do not limit the application of the NERL to the sale of electricity to customers connected to the national electricity system. Therefore in those jurisdictions, suppliers of electricity in a microgrid who are authorised retailers must comply with the NERL.

21 See AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, final report, 30 May 2019, p. 90.

22 See AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, final report, 30 May 2019, p. 90 for detail on those areas that may require change.

23 COAG Energy Council, Terms of reference: Review of changes required to the national electricity framework for SAPS, July 2018.

decreases. As such, the costs of providing a grid-connected service are at their highest in remote areas, at the "fringes" of the grid. SAPS solutions may increasingly represent a more economic alternative to replacing existing network assets in areas that are costly to serve.

There are a range of reasons that justify the need for effective regulation of SAPS:[24]

- Energy is an essential service for which there is a need and expectation for certain minimum protections, but in some jurisdictions SAPS customers currently have no energy-specific consumer protections and minimal safety or reliability standards.
- Once they are established, SAPS may exhibit natural monopoly characteristics such that regulation is required to simulate competitive market outcomes.
- SAPS may be a more efficient alternative to maintaining a traditional regulated DNSP connection in some areas, but customers will not voluntarily install them in rural locations where non-locational network pricing means the costs faced by the customer would increase if they go off-grid.
- Regulatory barriers may inhibit new entrant products and services that have potential to benefit consumers and increase energy productivity.

Amendments to the NEL and NER, and the NERL and NERR, would allow DNSPs to provide off-grid supply via SAPS as a distribution service, with conditions to protect customers and enable (as much as feasible) competition for off-grid supply services.[25]

As discussed in section 1.2.3, under the arrangements underpinning national energy markets, many aspects of regulation, such as safety and network reliability, are governed primarily by jurisdictional frameworks. Consequently, DNSP-led SAPS can only be effectively regulated if there are complementary changes to both the national and jurisdictional regulatory frameworks.

1.3 Terms of reference

The Commission self-initiated and published terms of reference for a review into *Updating the regulatory frameworks for distributor-led stand-alone power systems* on 19 September 2019. The purpose of the review is to advise on the detailed amendments to the regulatory framework that are required to implement the recommendations made by the Commission in the *Review of the regulatory frameworks for stand-alone power systems - priority 1*.

In that review, the Commission set out a number of recommendations for changes to the regulatory framework specifically to facilitate the provision of SAPS by distribution businesses. The Commission also prepared recommended drafting instructions for changes to the NEL and the NERL, noting that the next stage of work would involve development of detailed revisions to the rules to apply the final recommendations.

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24 This section only provides an overview of the key reasons that justify the need for effective regulation of SAPS. For a more detailed discussion of these factors see the AEMC's *Review of regulatory frameworks for stand-alone power systems - priority 1*, final report, 30 May 2019, pp.14-26.

25 AEMC, *Alternatives to grid-supplied network services*, rule determination, 19 December 2017, p. iii.

This review was initiated to develop these detailed revisions to the NER and NERR required to implement the new regulatory approach for distributor-led SAPS recommended by the Commission.

Under the terms of reference, the review is considering how best to implement the Commission's proposed regulatory framework for distributor-led SAPS. The focus of the work is on changes to:

- support efficient planning and investment outcomes in relation to SAPS
- extend existing market arrangements to accommodate distributor-led SAPS, including allowing for retail competition to continue to apply
- allow participation by the jurisdictions in the national arrangements in distributor-led SAPS on an opt-in basis.

The changes recommended by the Commission will apply to the provision of SAPS by distribution businesses. In respect of third-party SAPS, the final report which sets out the AEMC's recommendations for the regulatory framework that should apply to third-party SAPS was published on 31 October 2019.

1.4 Related work

This section summarises ongoing and recently completed work that is related to the *Updating the regulatory frameworks for stand-alone power systems review*.

1.4.1 SAPS Priority 2

The Commission has developed recommendations for a national framework for third-party SAPS which jurisdictions could then use for new or existing SAPS provided by entities other than DNSPs. The Commission published a final report on 31 October 2019, following a draft report published on 27 June 2019 and a consultation paper published on 1 March 2019. The final report presents a recommended three-tiered framework for the regulation of third party SAPS.

The framework includes three broad categories for third-party SAPS. Category 1 would comprise very large microgrids, in particular those large enough to warrant regulatory determinations by the AER. Category 2 microgrids will range from those supplying smaller towns to those connecting more than a handful of customers. Category 3 would encompass very small microgrids with a handful of customers, microgrids which only supply large customers and IPSs where there is a sale of energy.[26]

The final report also detailed the Commission's recommendations in relation to the regulatory obligations that should apply to each category for each of the following seven dimensions:

- Registration and licensing
- Access and connections

26 See the AEMC's *Review of regulatory frameworks for stand-alone power systems - priority 2*, final report, 31 October 2019, p.vi-vii for further detail on how boundaries are drawn between categories and what type and level of regulation would be required for each category.

- Economic regulation
- Consumer protections
- Reliability
- Network operations
- Safety

Under the review, the Commission prepared recommended drafting instructions for amendments to the NEL and NERL to facilitate the recommended regulatory framework for third-party SAPS, as well as to facilitate the transition of customers from grid-connection to third-party SAPS. If the COAG Energy Council approves the approach described in the report, the next stage of work would involve the development of detailed revisions to the NER and NERR to apply the final recommendations.

1.4.2 Embedded networks review

The Commission self-initiated the *Updating the regulatory frameworks for embedded networks* review on 20 August 2018, publishing a draft report on 31 January 2019 and a final report on 20 June 2019.[27]

The purpose of this review was to advise on the detailed amendment to the regulatory frameworks required to implement the recommendations from the Commission's 2017 *Review of the regulatory arrangements for embedded networks.* The review proposed a new regulatory approach to improve consumer protections and access to retail competition for embedded network customers by extending many of the arrangements for grid supplied customers to embedded networks. This would be achieved by elevating new embedded electricity networks into the national regime.

The final report set out a package of proposed changes to the NEL and NERL, along with recommended amendments to the NER and NERR, to implement the new regulatory approach for embedded networks.

The Commission closely coordinated and considered linked policy and legal issues between the SAPS and the embedded networks work streams. The COAG Energy Council recommended that the two work streams were coordinated to ensure strategic overview, efficiency and consistency, as the regulatory issues covered were similar.

1.4.3 Stand-alone and embedded networks working group

A time limited inter-jurisdictional working group, under the COAG Energy Council's Senior Committee of Officials (SCO), has been established to consider the recommendations to progress the accompanying legislative changes in line with the Commission's recommendations in the *Review of the regulatory frameworks for stand-alone power systems - priority 1* and the *Updating the regulatory frameworks for embedded networks* review.

27 AEMC, *Updating the regulatory frameworks for embedded networks*, Final report, 20 June 2019.

On 10 September 2019, the chair of the working group wrote to the Commission requesting the development of an initial set of rules for distributor-led SAPS in parallel with the working group's consideration of the recommendations made in the final reports.

The Commission is liaising closely with the working group to help deliver the reform packages for both SAPS and embedded networks.

2 ASSESSMENT FRAMEWORK AND APPROACH

This chapter sets out the Commission's approach to undertaking the review and the assessment framework used to guide and assess the proposed rule changes to meet the review's objective.

2.1 Assessment framework

The objective of this review is to develop detailed advice on revisions to the NER and NERR required to implement the new regulatory approach for DNSP-led SAPS previously recommended by the Commission.

As such, this review is also guided by the overarching objective to develop a package of law and rule changes to allow distribution businesses to transition customers to SAPS supply where it is economically efficient to do so, while maintaining appropriate consumer protections and service standards. This section sets out the framework the Commission has used to guide it in developing and assessing the draft rule changes to achieve this outcome.

2.1.1 National energy objectives

The review is considering potential changes under the NER and the NERR. As such, two of the national energy objectives - the national energy retail objective (NERO) and the national electricity objective (NEO) - are relevant to this review.

The NERO is:[28]

> to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy.

In addition, under the NERL the Commission must, where relevant:[29]

> satisfy itself that the Rule is compatible with the development and application of consumer protections for small customers, including (but not limited to) protections relating to hardship customers.

This is referred to as the consumer protection test.

The NEO is:[30]

> to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

28 NERL, s. 13.
29 NERL, s. 236(2)(b).
30 NEL, s. 7.

Consistent with the terms of reference for the review, the Commission considers that the relevant aspects of the NERO and NEO are the promotion of efficient investment in, and operation of electricity services for the long term interests of consumers of electricity with respect to price, quality, safety and reliability.

For example, any regulatory arrangements for stand-alone power systems may affect the prices consumers pay (including consumers that remain connected to the grid) and the reliability of the service SAPS customers receive.

The consumer protection test is also important given the strong focus of the review on the protections that consumers should receive when supplied by stand-alone power systems.

For a detailed discussion on the Commission's approach to applying these overarching objectives to rule making processes and reviews, such as this one, refer to Applying the energy objectives: A guide for stakeholders.[31]

2.1.2 Assessment criteria

Consistent with these objectives, the Commission has identified the following more detailed criteria to assess potential regulatory arrangements for stand-alone power systems, incorporating principles of good market design and best practice regulation:

- Do the regulatory arrangements facilitate competition and consumer choice in energy services and products?
- Do the regulatory arrangements promote efficient investment and allocation of risks and costs?
- Do appropriate consumer protections and compliance mechanisms apply within stand-alone power systems?
- Are the regulatory arrangements clear, consistent and transparent?
- Are the regulatory arrangements proportional to the risks they seek to mitigate?

Each criterion is discussed further below.

Do the regulatory arrangements facilitate competition and consumer choice in energy services and products?

Competition is a key driver of productivity and efficiency in markets, driving lower prices and improved choices for consumers in the long run. This is because, over time, effective competition will incentivise businesses to innovate, minimise costs, provide competitive prices, provide a quality of service matching customer expectations and a choice of services consistent with consumer preferences. As such, regulatory arrangements should facilitate competition and choice, with readily available, clear, timely and accurate market information, that current and potential market participants have access to.

Do the regulatory arrangements promote efficient investment and allocation of risks and

31 AEMC, *Applying the energy objectives: A guide to stakeholders,* 8 July 2019, available on the AEMC's website www.aemc.gov.au.

costs?

The key driver for the review is to develop regulatory arrangements to allow DNSPs to use new solutions to supply energy to consumers in a more economically efficient way. The regulatory framework for stand-alone power systems should encourage innovation and promote efficient investment in network infrastructure and the supply of energy services. Efficient outcomes are most likely to arise where risks and costs are appropriately allocated to the parties best placed to manage them, and transaction costs are minimised.

Do appropriate consumer protections and compliance mechanisms apply within stand-alone power systems?

In 2017, the Commission considered a rule change request made by Western Power that sought to allow DNSPs to deploy alternative technologies and methods of providing distribution services, such as transitioning customers to off-grid supply.[32] In the final determination for the rule change, the Commission set out its view that customers who move to off-grid supply to reduce distribution costs (thereby benefiting all electricity customers by reducing overall costs) should continue to receive appropriate energy-specific consumer protections aligned with those of standard supply customers. The Commission considers that, where off-grid supply is provided as a regulated DNSP-led service at the same price as paid by grid-connected customers, protections should be no less stringent than those the relevant customers currently receive for their existing grid connection.[33]

Are the regulatory arrangements clear, consistent and transparent?

The regulatory framework for stand-alone power systems needs to be transparent and result in predictable outcomes for all participants and should provide a clear, understandable set of rules to encourage effective participation in the market. Consumers and businesses need to understand what their protections and obligations are, and what others' obligations are, with respect to the transactions they undertake.

Consumers should have access to sufficient information on the consumer protections which apply when being supplied by a SAPS. This would assist consumers in transitioning from a standard grid connection to a SAPS model of supply.

A clear and transparent regulatory framework creates confidence in the market which should also encourage investment and innovation in providing SAPS based services.

Are the regulatory arrangements proportional to the risks they seek to mitigate?

Competition and market signals often help protect and provide the best outcome for consumers. However, regulation may be necessary in the case of market failure or to safeguard safe, secure and reliable supply of energy to consumers. Regulatory frameworks should balance the costs of regulatory arrangements with their expected benefits and be fit for purpose. Where arrangements are complex to administer, difficult to understand, or

32 AEMC, *Alternatives to grid-supplied network services*, rule determination, 19 December 2017.

33 AEMC, *Alternatives to grid-supplied network services*, rule determination, 19 December 2017, p. 36.

impose unnecessary risks, they are less likely to achieve their intended ends, or will do so at higher cost.

2.2 Structure of the report

This report presents the Commission's proposed detailed amendments to the regulatory framework that are required to implement the recommendations made by the Commission in the SAPS priority 1 final report.[34]

In this draft report we have focussed on detailed revisions to the NER and the NERR required to implement the new regulatory approach for DNSP-led SAPS previously recommended by the Commission. However, given that there are a number of areas where policy issues have required further development or clarification, we present a more detailed analysis of these key issues in the body of this report. The remainder of the key areas for regulation recommended by the Commission are detailed in the appendices.

The report is structured as follows:

- Chapter 3 analyses the provision and arrangement of SAPS services under the proposed SAPS service delivery model.
- Chapter 4 provides an analysis of the key issues relating to the development and implementation of the SAPS settlement price.
- Chapter 5 provides an analysis of the approach to the classification of SAPS distribution and generation services, and how this relates to ring-fencing of contestable services.
- Chapter 6 covers the process for implementing the Commission's recommendations for a new regulatory approach to DNSP-led SAPS, and includes consideration of how changes to the NER and NERR will be made, along with corresponding jurisdictional actions required for implementation.
- Appendices A to C set out the Commission's detailed analysis and views in relation to SAPS planning and engagement, new connections and reconnection, and the application of consumer protections.
- Appendix D summarises the proposed changes to the NER and NERR required to implement the recommended framework. The proposed draft changes to the rules themselves are set out in a separate document published with this draft report.

34 AEMC, R*eview of the regulatory frameworks for stand-alone power systems - priority 1*, 30 May 2019.

3 SAPS SERVICE DELIVERY MODEL

This chapter sets out the Commission's proposed approach to a number of matters relevant to the recommended SAPS service delivery model. The first matter relates to the treatment of DNSP-led SAPS in settlement. In particular:

- the arrangements needed to support the settlement of SAPS load and generation in AEMO's systems, including metering arrangements at SAPS connection points
- SAPS participant registration requirements and appointment of a financially responsible market participant to SAPS connection points
- utilisation of AEMO's automatic settlement systems and processes to calculate SAPS trading amounts, and the need for manual adjustments, and
- the treatment of losses and non-energy costs in SAPS settlement.

The second matter relates to the payments made by DNSPs to SAPS service providers (that is, SAPS generators) for the provision of SAPS support services and, in particular, how the Commission expects the expenditure and revenue associated with these payments to be treated.

This chapter also sets out the Commission's proposed approach to implementing the proposed arrangements associated with these two matters in the NER.

3.1 Background

The SAPS service provided to a customer (or group of customers) will incorporate a suite of services including local generation services, network services and retail services, as well as supporting services such as metering. This raises questions of how to define and allocate responsibility for these services, and whether this should be different to existing NEM arrangements.

In particular, for an individual power system (IPS), there may be no readily identifiable network element. Rather, the IPS can be thought of as providing both a generation service and a network (or network substitution) service, in a similar way to a generator providing a non-network solution to a DNSP currently does. The difference for an IPS is that it is providing a total, as opposed to a partial, substitute for the network activity.

There are a myriad of possible models for SAPS service delivery, and a key question for the SAPS priority 1 review was whether a national framework should be designed to support one approach to SAPS service delivery (which could accommodate various circumstances) or whether it is appropriate to focus on establishing a framework that supports multiple approaches to SAPS service delivery, depending on the circumstances at hand (for example, the degree of SAPS penetration or the number of customers served by a particular SAPS).

In respect of the provision of retail services, a key issue was whether it is possible, practical and efficient for SAPS customers to retain their current retailer, retail offer and access to retail competition (in jurisdictions where there is retail competition). Where this is feasible,

the Commission's preference has been to utilise the existing retail market arrangements to support the supply of energy to SAPS customers.

In developing and then assessing the various possible models of SAPS service provision, the Commission had regard to the potentially complex flow of payments between the customer and the DNSP, and any other parties responsible for providing the different services within a SAPS.

In all cases, the aim has been to ensure that the SAPS service delivery arrangements enable customers who are transitioned to SAPS by a DNSP to continue to receive distribution charges equivalent to the cross-subsidised price they currently pay.

3.2 Commission's recommended position in SAPS priority 1 final report

Over the course of the SAPS priority 1 review, the Commission considered a number of possible SAPS service delivery options, including several put forward by stakeholders.[35] Having considered each in detail, the Commission concluded that the best approach to the delivery of the SAPS service would be through a NEM consistent approach which utilises an administered settlement price charged to retailers for the delivery of energy to SAPS customers. The key features of this approach are outlined below.

NEM consistent approach with an administered settlement price

The key feature of the Commission's recommended service delivery model is that the customer-facing party would be charged an administered settlement price for the energy it delivers to the customer. Existing wholesale energy market arrangements, including the settlement system, would be used, amended as necessary, to provide for the SAPS specific settlement price.

The Commission considered that utilising the existing wholesale energy market arrangements would make it feasible for the SAPS retail service to be provided by competing grid retailers, thus allowing SAPS customers to maintain their relationships with existing retailers, and to retain their existing retail offers. This would support the seamless transition of existing grid-connected customers to SAPS and ensure that SAPS customers were no-worse-off in terms of price, following the transition to SAPS supply.

Further, utilising an administered settlement price (rather than the spot price) would remove retailer risk associated with price volatility in the spot market and hence also the need for retailers to hedge SAPS customer load with NEM generators. It would also remove the incentive for retailers to provide price signals to SAPS customers that relate to spot market prices (which may not be consistent with the optimal use of SAPS). The other features of the Commission's recommended option were as follows:

- Existing retailers would continue to provide retail services to SAPS customers based on current retail service offerings.

35 AEMC, *Review of the regulatory frameworks for stand-alone power systems – priority 1*, Final report, May 2019, Appendix A, pp. 129-144.

- Retailers would not be exposed to wholesale spot price risk for SAPS customers and therefore would not be incentivised to hedge price risk with NEM-based generators.
- SAPS generators would be chosen by DNSPs through a tender (or equivalent) process.
- SAPS generators would receive the administered settlement price plus a payment similar to a network support payment consistent with the agreed competitive tender price for providing SAPS generation services.[36]
- Based on the flow of payments to the SAPS generators, the existing ring-fencing requirements would be expected to apply, meaning that DNSPs would outsource the provision of the SAPS generation functions to third-party providers (unless a DNSP was granted a waiver allowing it to provide the SAPS generation service directly).
- DNSPs would continue to provide network services over the SAPS grid, with network assets included in the RAB.
- DNSPs would receive funding for the payment made to SAPS generators, and for any expenditure required for the distribution service, through existing regulatory mechanisms.
- Existing metering roles, responsibilities and processes would be utilised, potentially with minor changes.
- Changes would be required to AEMO's settlement systems to allow SAPS retailers and generators to be settled at the administered settlement price, rather than the wholesale market spot price.
- The savings associated with the provision of SAPS by a DNSP would be socialised over all of that DNSP's customers, consistent with the EBSS and CESS.

Delivery of SAPS functions

Provision of retail functions

The provision of retail services, including billing and customer management services, to customers who have been transitioned to SAPS supply would continue to be facilitated via the competitive retail market. SAPS customers would therefore be able to retain their existing retailer and retail offer. In areas where there is effective retail competition, SAPS customers would be able to choose and switch retailers at any time, including when another retailer provides a more attractive offer. In areas without effective retail competition, customers would continue to pay the jurisdictionally-regulated retail price.

Provision of generation functions

The distinguishing feature of SAPS is that they are capable of supplying a customer with energy that is generated and controlled at the local level, from a unit which operates autonomously and which is not connected to the interconnected grid. The generation of electricity is therefore a key feature of the service provided by means of a SAPS. Under the Commission's recommended option, if existing ring-fencing restrictions were to apply, DNSPs would outsource the provision of the SAPS generation functions and sub-functions to third-party providers (which may include a ring-fenced affiliate of the DNPS). However, DNSPs

36 As noted below, this design feature was identified by the Commission in the SAPS priority 1 final report as an area to be considered further during the rule drafting stage of the review.

would remain responsible for ensuring compliance with all relevant distribution obligations, including jurisdictional reliability standards.[37]

Provision of SAPS distribution functions

As noted previously, a SAPS can be thought of as providing both a generation service and a network (or network substitution) service, similar to a generator providing a non-network solution to a DNSP. However, where multiple properties are provided with a SAPS service via a microgrid, this distribution network role is substantive and meaningful. In an IPS, there may be no traditional network assets. Under the Commission's recommended option, the distribution network function would continue to be provided by the DNSP in all cases.

Provision of metering functions

Under the Commission's recommended SAPS service delivery option, it is assumed that the provision of metering services to SAPS customers would continue to be provided by a metering coordinator appointed by the SAPS customer's retailer, consistent with existing arrangements in the NER.[38]

In order for a DNSP to be able to appropriately design and size a SAPS however, SAPS customer load would need to be monitored prior to the installation of a SAPS on the customer's property. This may require the installation of an advanced meter on the customer's premises which, in turn, may require DNSPs to negotiate with the customer's retailer and metering coordinator to arrange for the deployment of such a meter. Alternatively, DNSPs may be able to install a network device adjacent to a customer's existing meter to enable it to monitor the customer's load for the purpose of appropriately designing and sizing the SAPS.

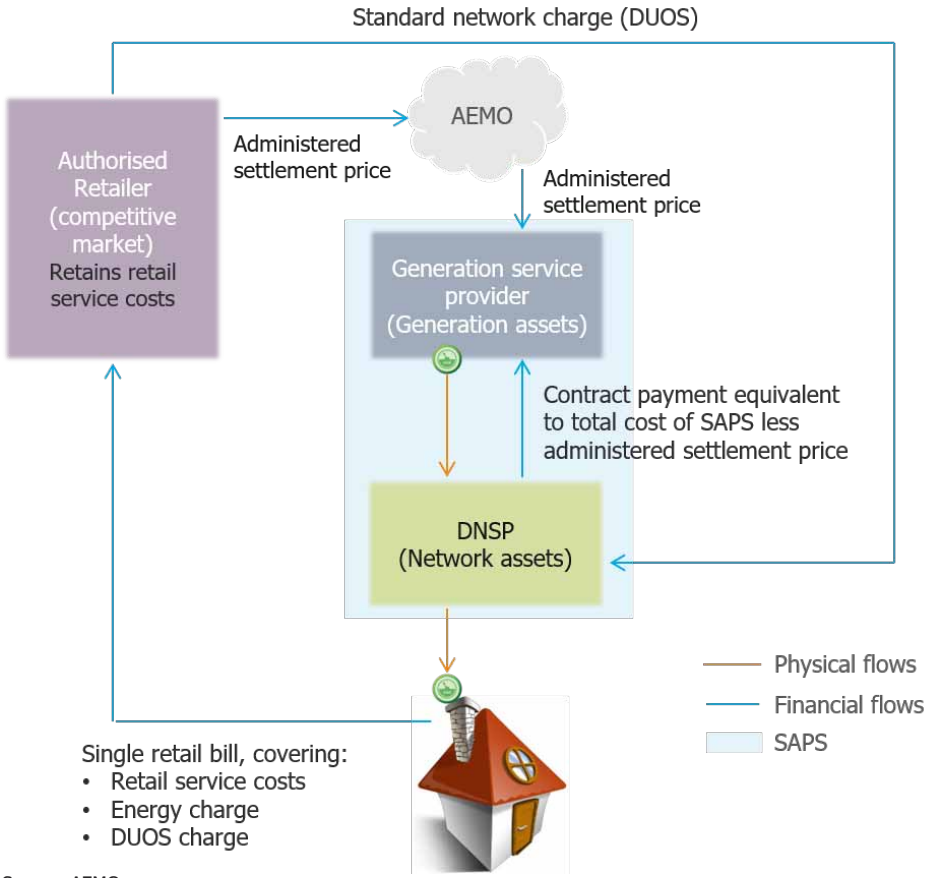
Financial flows

The figure below highlights the financial flows of the Commission's recommended SAPS service delivery model.

37 Reliability standards in the context of SAPS are discussed in appendix C.

38 In the NEM, retailers are typically responsible for arranging metering services for their residential and small business customers. A retailer must appoint a 'metering coordinator' for each of its customers' connection points. In general, the retailer provides instructions to the metering coordinator for any metering work needed by the customer. The metering coordinator is then responsible for the provision of metering services and all issues related to the metering installations for which it has been appointed.

Figure 3.1: SAPS service delivery model



Source: AEMC

The SAPS customer would continue to pay its existing retailer (under its existing retail contract) who, in turn, would forward the standard network charges to the DNSP and would settle the energy delivered to SAPS customers with AEMO at the administered settlement price.

The SAPS generator would also receive an energy payment from AEMO at the administered settlement price, together with a make-whole payment from the DNSP consistent with the contractual arrangements for SAPS generation services between the DNSP and the SAPS generator.

The above figure also includes a separate element highlighting the potential role of the DNSP as the SAPS network service provider. This service is unlikely to be substantive for individual power systems but is likely to be required for microgrids.

Key matters for consideration

In the SAPS priority 1 final report, the Commission outlined a number of matters in relation to the recommended SAPS service delivery arrangements which it intended to consider further during the rule drafting stage of the review.[39] These matters included:

- establishing the administered settlement price (discussed in chapter 4 of this report)
- application of losses within a SAPS (discussed in section 3.3.1 below).

3.3 Commission's analysis and draft position

This section explores a number of key matters relevant to the Commission's recommended SAPS service delivery model, including those identified by the Commission in the SAPS priority 1 final report (as outlined above) as requiring further consideration at the rule drafting stage. These matters relate to:

- the financial settlement of SAPS load and generation by AEMO, and
- the payments made by DNSPs to SAPS service providers (that is, SAPS generators) for the provision of SAPS support services.

3.3.1 Settlement of SAPS load and generation

As noted above, in the SAPS priority 1 final report the Commission concluded that the delivery of SAPS services to customers would best be supported by the existing wholesale market arrangements, including AEMO's settlement systems. However, rather than utilising the five-minute spot price to settle the delivery of energy to SAPS customers, the Commission recommended that retailers would be charged an administered settlement price for that energy (the administered settlement price, termed the SAPS settlement price (SSP) is discussed in detail in the next chapter).

AEMO is responsible for the settlement of all electricity that is bought and sold through the NEM wholesale electricity pool. Retailers and wholesale customers pay AEMO on a weekly basis, and AEMO subsequently pays generators.

Under the Commission's recommended SAPS service delivery model, AEMO will also be responsible for settlement of retailers and generators operating within a SAPS. Similar to the NEM, the settlement arrangements applicable within a SAPS must ensure that retailers (and any large customers) pay AEMO for the energy consumed or supplied to SAPS customers, and that SAPS generators are paid for the energy they generate.

The Commission has considered a number of approaches to the treatment of DNSP-led SAPS within AEMO's existing settlement system and processes. Key considerations have included:

- whether load and generation within a SAPS can and should be settled in a consistent way
- how to treat non-energy costs incurred in the NEM and losses within SAPS
- whether the settlement arrangements are scalable and robust to future regulatory changes, and
- the costs of implementation with AEMO's existing settlement systems and process.

39 AEMC, *Review of the regulatory frameworks for stand-alone power systems – priority 1*, Final report, May 2019, pp. 66-67.

Having considered these matters in detail, the Commission's proposed approach to settlement has the following key characteristics:

- allows for the settlement of individual generators
- requires relatively few changes to the rules
- would likely be capable of being implemented by AEMO through manual systems while take-up of SAPS is low.

An overview of the Commission's proposed approach to SAPS settlement, including the key features, is provided in the table below. The following sections then discuss each element of the approach in greater detail.

Table 3.1: **Distributor-led SAPS in settlement**

FEATURE	PROPOSED DESIGN CHOICE
Settlement support arrangements	• Each customer NMI (connection point) transitioned to a SAPS by a DNSP would be flagged as belonging to a SAPS in AEMO's systems • Transmission loss factors (TLF) and distribution loss factors (DLF) will both be set to 1
Registration requirements	• The owner/ operator/ controller of generating units connected to a SAPS will be exempt from registering as a generator.
Financially responsible market participants	• All SAPS customer NMIs will have a market customer (in most cases, a retailer) as the financially responsible market participant (FRMP) • SAPS generation NMIs will have a market small generation aggregator (MSGA) or a market customer as the FRMP
Treatment of losses	• Any losses in a SAPS system would be included in the calculation of Unaccounted for Energy (UFE) (under global settlement)
Calculation of SAPS trading amounts	• Automated settlement would run as normal, including for all SAPS NMIs. This would include spot market transactions and all non-energy charges • For each SAPS NMI, AEMO would then calculate and settle a trading amount adjustment to reflect the difference between the spot price and the SSP
Treatment of non-energy costs	• As part of the automated settlement run, all non-energy charges (excluding provider of last resort (PoLR) costs) would be levied on relevant SAPS NMIs
Treatment of prudentials	• Prudentials for retailers would continue to be calculated as normal from non-adjusted trading amounts

Source: AEMC

Settlement support arrangements

Currently, governments in participating jurisdictions are responsible under jurisdictional electricity legislation for allocating 'local areas' to a DNSP, and appointing a local retailer (referred to in the NERL as a 'local area retailer') for each local area.[40]

A local area is defined in Chapter 10 of the NER as "the geographical area allocated to a Network Service Provider by the authority responsible for administering the jurisdictional electricity legislation in the relevant participating jurisdiction".

Within a local area, there are metered connection points that link the transmission network to other connection points called transmission node identifiers (TNIs). TNIs apply to every connection to a transmission network, including distribution networks, large generating systems and smelters.

At the distribution level, every electricity network connection point within a distribution network has its own National Metering Identifier (NMI). Every small and large customer NMI in a local area must be referenced to the correct TNI. This enables market settlement to be performed at the TNI level (an exception is where customer meters are referenced to a virtual transmission node).

For the settlement of load and generation within a SAPS, each existing grid-connected customer's NMI will, as part of the process of being transitioned to a SAPS by a DNSP, need to be delinked from its existing TNI and carved out of the DNSP's 'local area' for the purposes of calculating unaccounted for energy (explained below). In addition, each generating system within a SAPS will need to be assigned a new NMI within MSATS.[41] These NMIs will also need to be flagged within MSATS as belonging to a SAPS.

Both the transmission loss factor and distribution loss factor for connection points allocated to each DNSP would be set to one. The treatment of losses within a SAPS is considered in further detail later in this section.

Registration requirements and financially responsible market participants

The key trading relationship from a settlement point of view is the financially responsible market participant (FRMP). In relation to any connection point to be settled by AEMO in the market, the FRMP is the market participant which has either:[42]

- classified the connection point as one of its market loads
- classified the generating unit connected at that connection point as a market generating unit, or
- classified the network services at that connection point as a market network service.

Generally, the FRMP at a customer connection point will be a market customer (most likely a retailer). For generation connection points, the financially responsible market participant may be the generator itself or, for small generating systems, either a small generator aggregator

40 NERL, ss. 11 and 12.

41 MSATS is an IT system operated by AEMO to fulfil its obligations under the NER. MSATS refers to "Market Settlement and Transfer Solutions".

42 NER Chapter 10 definition of "financially responsible".

or a market customer.[43] An intermediary may also provide this function, where appointed directly by a generator.[44]

In respect of SAPS, the Commission's proposed arrangements do not deviate significantly from existing arrangements. Specifically:

- all SAPS customer NMIs will have a market customer (in most cases, a retailer) as the FRMP. The FRMP will be responsible for making payments to AEMO for the energy delivered to SAPS customers, at the SAPS settlement price.
- SAPS generating system NMIs will have either an MSGA or a market customer as the FRMP.[45] The FRMP will be responsible for receiving payments from AEMO for the energy sold to the market at the SAPS settlement price.

In relation to the second point above, a key benefit of utilising the existing SGA framework is that it provides for a party to be financially responsible for the participation of SAPS generating systems in the market, without requiring each individual unit to have to register as a market generating unit. This will avoid potentially significant and unnecessary costs associated with generator registration being imposed on SAPS generators. It is also flexible as the person who registers as the SGA need not be the owner, operator or controller of the small generating unit.

Importantly, an MSGA or market customer will have the ability to add SAPS generating units to its portfolio through MSATS.

An overview of the existing SGA framework is provided in Box 2.

BOX 2: SMALL GENERATOR AGGREGATOR FRAMEWORK

In 2012, the AEMC made a rule on the Small Generation Aggregator Framework rule change request proposed by AEMO. This rule change sought to reduce the barriers to entry faced by the owners of small generators in actively participating in the NEM. The rule created a new category of Market Participant which is able to sell the output of multiple small generating units without the expense of individually registering every generating unit.

This change was made to enable small generating units to have a more direct exposure to market prices, and therefore to create a more efficient wholesale market. This in turn was expected to lead to long term benefits to consumers through lower prices paid for electricity, especially in peak times.

The rule as made established two additional participant categories in the NER:

- an SGA, which was the new category of Registered Participant, and

43 See AEMO, *Guide to generator exemptions and classification of generating units*, 20 November 2018, p. 8.

44 See NER clause 2.9.3.

45 The Commission expects that in the majority of cases, a generating unit connected to a SAPS will be a small generating unit. However, the proposed draft rules do allow for larger generating units to be connected to SAPS.

- a Market Small Generation Aggregator (MSGA), which was the new category of Market Participant.

The distinction between an SGA and an MSGA was made to bring the SGA framework into line with the existing rules for other participants in the NEM. Any party registered as an SGA must also be an MSGA in order to participate in the market.

Under the rule, each MSGA is able to add small generating units to its portfolio through MSATS in the same method as Market Customers currently add end customers.

Source: AEMC, *Small generation aggregator framework*, Final determination, 29 November 2012.

Treatment of losses

As electricity flows through the transmission and distribution networks, energy is lost in the form of heat due to electrical resistance and the heating of conductors. In the NEM, the losses are equivalent to approximately 10 percent of the total electricity transported between power stations and market customers.[46]

In the context of an IPS, the distance between generation and load is likely to be negligible meaning energy losses within a SAPS are also likely to be negligible. However, in the context of a microgrid, depending on the distance between SAPS generating systems and customer load, losses are likely to be relevant and may need to be accounted for in settlement.

In the NEM, technical losses are estimated by applying distribution loss factors (DLFs) and transmission marginal loss factors (MLFs).[47] At the distribution level, the difference between the estimated losses calculated with DLFs and the actual losses that occur in the distribution network are considered 'unaccounted for technical losses'. Unaccounted for technical losses are included within the calculation of 'unaccounted for energy (UFE)'.[48] UFE is currently allocated to the local retailer for an area, but will soon be allocated to all market customers in a distribution network (local area) under the Commission's rule changes introducing global settlement. An overview of global settlement is outlined in Box 3.

BOX 3: 'SETTLEMENT BY DIFFERENCE' AND 'GLOBAL SETTLEMENT'

Under the current market settlement framework, known as 'settlement by difference', electricity supplied to a distribution area is billed by AEMO to the incumbent retailer, known as the local retailer, except for the loss-adjusted metered electricity that is consumed by the customers of independent retailers within the area. This means that the local retailer for an area bears the risk of all residual electricity losses in that area—known as unaccounted for energy (UFE). UFE includes unaccounted for technical losses, commercial losses and errors in

46 See AEMO website, *Loss factors and regional boundaries*, at www.aemo.com.

47 AEMO applies MLFs to load and generation at transmission network connection points and average distribution loss factors to connection points embedded within a distribution network.

48 UFE includes unaccounted for technical losses, commercial losses and errors in estimating the half-hourly (soon to be five minute) consumption of basic metering installations that do not keep track of how electricity usage varies throughout the day.

estimating the half-hourly — soon to be five minute — consumption of basic metering installations that do not keep track of how electricity usage varies throughout the day.

Under a global settlement framework, every retailer is billed for the loss-adjusted metered electricity that is consumed by their customers within the area. UFE is then allocated to market customers (mostly retailers) on the basis of a pre-determined methodology.[a] Under the Commission's methodology, UFE is allocated to all market customers in a distribution network (local area), pro-rated based on their 'accounted-for' energy.

Source: AEMC, *Global Settlement and Market Reconciliation*, Final determination, 6 December 2018.
Note: a Remaining market customers tend to be large industrial electricity users such as smelters. See current market registration lists at www.aemo.com.au.

Given that the Commission's proposed approach to settlement would involve the settlement of each individual SAPS generator based on its generated output, the Commission considers it necessary to capture losses within the SAPS settlement arrangements.[49]

Using an approach which captures any losses through the calculation of unaccounted for energy is relatively simple and straightforward, and avoids the need to have to determine the loss factor to apply within each individual SAPS system operated by the DNSP. In addition, in the NEM, loss factors provide important signals for efficient dispatch and future investment in the market. Arguably, in all but the largest DNSP-led SAPS (for example, those large enough to warrant the appointment of an independent system operator), provision of these signals to market participants will, for the most part, be irrelevant.

The Commission's proposed approach to the treatment of losses is based on the global settlement framework having commenced in the NEM. The Commission recognises that there may be a period between implementation of the DNSP-led SAPS regulatory framework (which may be in mid-2021, subject to the passage of legislation through the South Australian Parliament) and commencement of global settlement (6 February 2022) where alternative arrangements may be needed to account for the allocation of losses with SAPS under settlement by difference. Details of these interim arrangements will be considered prior to publication of the final report for this review.

The Commission's proposed approach to the allocation of losses within a SAPS through the allocation of UFE is explained in detail below.

Calculation of SAPS trading amounts

Having regard to the proposed SAPS settlement arrangements described above, this section provides an overview of how the Commission anticipates these arrangements would be implemented by AEMO, including how settlement would be run for load and generation within a SAPS.

49 Rather than capturing the effect of losses within settlement through the application of loss factors at SAPS connection points, the Commission is proposing to set both the MLF and DLF to 1, and to capture the effect of losses (if any) through the calculation and allocation of unaccounted for energy.

In the first instance, settlement would be run as normal and would include all the SAPS NMIs allocated to a DNSP. The settlement run would include spot market transactions and all non-energy charges. Similarly, prudentials would be calculated as normal. Any losses in a SAPS system (which are expected to be minimal until such time as multiple, large microgrids are established) would be included in the calculation of UFE.[50]

The settlement process for SAPS will then require a process to adjust the trading amounts for SAPS participants to account for the application of the SAPS settlement price. This process is outlined below.

Adjusted trading amounts

For each SAPS NMI for which market customers and MSGAs are the financially responsible market participants, AEMO will need to calculate and settle a trading amount adjustment.

The trading amount adjustment for each SAPS NMI would be the difference between the spot market transaction for each trading interval using the regional reference price and an adjusted spot market transaction for the same interval using the (administered) SAPS settlement price for that region. This would have the effect of applying the SAPS settlement price to both load and generation in all SAPS systems, and removing exposure to the spot market price.

The next chapter discusses the Commission's proposed approach to the SAPS settlement price in detail. In summary, the Commission is proposing a fixed SAPS settlement price for each financial year, set on the basis of a time-weighted average of the regional reference price over the previous (financial) year multiplied by 0.8. The benefit of this simple approach is that the calculation of the trading amount adjustment (which AEMO may choose to do outside its automated settlement system) will be relatively straightforward.

Overall, the Commission considers that an approach which calculates the difference between the spot market transaction and adjusted trading amount for each SAPS participant would be relatively simple for AEMO to implement. In addition, the calculation of a trading amount using the regional reference price for each trading interval would continue to feed through to the calculation of prudentials by AEMO.

Treatment of losses in settlement

As noted above, under global settlement, UFE will be allocated to importing market customers on a pro-rated basis across a DNSP's local area. The implication of this would be that any losses and other UFE incurred within a SAPS would be intermingled with UFE from the interconnected grid.[51] While this is not a problem in and of itself, issues could arise when the SAPS settlement price is applied to SAPS load and generation as part of the adjustment process described above.

50 The UFE calculation will occur as part of settlement upon commencement of the global settlement rule, under new clause 3.15.5. See, Global Settlement and Market Reconciliation, Final determination, 6 December 2018.

51 This issue would not arise under the current arrangements for settlement by difference on the basis that, currently, UFE is allocated on a TNI basis, rather than a local area basis.

To address this issue, the Commission proposes a separate UFE calculation be undertaken for all the SAPS networks within a DNSP's local area. This would have the effect of quarantining losses/UFE in the DNSP's SAPS systems from the UFE on its grid connected system. The UFE calculation under global settlement would then proceed as normal.

Proposed draft rules on the calculation of trading amounts

Much of Chapter 3 of the NER is concerned with the operation of central dispatch and the determination of loss factors and spot market prices. These arrangements will not apply in respect of a SAPS. Rather, Chapter 3 will apply in relation to a SAPS as follows:

- energy-related payments will be included in the calculation of settlement amounts
- energy-related payments will be calculated using a SAPS settlement price instead of the spot price (although this will be done by first calculating the amount using the spot price and then adjusting to the equivalent SAPS settlement price), and
- the calculation of non-energy payments to be made by a market customer and MSGA will take into account energy consumed in a SAPS by its customers and energy generated by SAPS generators (as applicable).

The detailed changes to Chapter 3 of the NER required to give effect to the Commission's proposed approach to the calculation of settlement amounts for SAPS load and generation (including in relation to UFE and losses) are described in appendix D, and are shown in mark-up in the rule document published with this draft report.

Treatment of non-energy costs

As part of the settlement process, AEMO recovers a number of non-energy costs from certain market participants, subject to the rules. These non-energy costs include costs associated with energy charges, ancillary services, participant fees and compensation related to the interventions framework (that is, in relation to AEMO issuing directions and activating the RERT).

Box 4 provides a general overview of the current non-energy cost recovery arrangements in the NEM, provided by AEMO.

Table 4 Current NEM non-energy settlement recovery

	Cost recovery from	NER Reference
Market ancillary services		
Frequency Control Ancillary Services (FCAS) – contingency raise	Market Generator including Market Small Generation Aggregator (MSGA)	3.15.6A (f)(3)
FCAS – contingency lower	Market Customers	3.15.6A (g)(3)
FCAS – regulation	Market Generator and Market Customers on causer pays basis	3.15.6A (i)
Non-market ancillary services		
Network support control ancillary services (NSCAS)	Market Customers	3.15.6A(c2)(1)
System restart ancillary services (SRAS)	Market Customers, Market Generators including MSGAs	3.15.6A(c2)(2)
Interventions		
Direction – energy	Market Customers	3.15.8(b)
Direction – FCAS	Market Customers, Market Generators on a causer pays basis	3.15.8(e)
Direction – other	Market Customers, Market Generators and MSGAs	3.15.8(g)
Mandatory Restriction	Market Customers	3.12A.7(e)
Reliability and Emergency Reserve Trader (RERT)	Market Customers	3.15.9(f)
Other events		
Market shortfall and surplus	Market Generators including MSGAs	3.15.23
Administered price cap or administered floor price compensation Payments	Market Customers	3.15.10(a)

Source: AEMO

The Commission is not proposing to significantly amend the existing allocation of non-energy costs incurred in the NEM to market participants. Therefore, to the extent that these costs are recoverable from market participants that are financially responsible for connection points within a SAPS — that is, market customers and market small generator aggregators — these charges will apply to those parties and the connection points within their portfolios.

In coming to this view, the Commission had regard to a number of matters, including consistency of its approach with the overall rational for the NEM consistency approach to SAPS service delivery, the materiality of these charges and the costs associated with separating SAPS NMIs out of the existing non-energy charge allocation.

In respect of market customers responsible for SAPS load connection points, the Commission considers that an approach which continues to levy non-energy costs on these parties is appropriate and consistent with its broader approach to SAPS service delivery which aims to

maintain the conditions under which a customer would be supplied if they were connected to the grid (other than the nature of the physical supply arrangements).

In respect of the charges to be levied on MSGAs, the Commission is of the view that, given the amount of these charges would be relatively immaterial most of the time and that the costs associated with separating SAPS customer and generator NMIs out of the existing non-energy charge allocation is likely to be higher, the proposed arrangements represent a proportionate response.[52]

In addition, this proposed approach to the treatment of non-energy costs in the NEM largely treats load and generation within a SAPS equally in the sense that the existing arrangements applicable in the NEM will carry over to both sets of parties operating in a SAPS.

Notwithstanding the above, the Commission is proposing one change to the rules in respect of the allocation of costs associated with Provider of Last Resort (PoLR) to market customers in respect of their SAPS customers. Currently, liability for PoLR costs is determined by whether or not retailers have met their obligations under the Retailer Reliability Obligation (RRO) — that is, whether retailers have entered into sufficient contracts to meet their share of expected system peak demand.[53]

Given the Commission's approach throughout the SAPS priority 1 review has been to develop arrangements which avoid the need for retailers to contract with generators in the NEM in respect of their SAPS customers, the Commission has taken the view that market customers should be exempt from liability for PoLR costs — and from the RRO more generally — in respect of their SAPS customer load.

To give effect to the Commission's proposed approach to the treatment of non-energy costs in the rules, the proposed draft rules include a new clause 3.21.1(b)(3) which includes a list of the non-energy related payments that are payable in respect of SAPS connection points. These are:[54]

- ancillary services transactions under clause 3.15.6A
- funding of compensation costs under clause 3.15.8
- funding of the market suspension compensation recovery amount under clause 3.15.8A
- fees to fund reserves under clause 3.15.9
- administered price cap or administered floor price compensation payments under clause 3.15.10
- funding of restriction shortfall amounts under clause 3.15.10B, and
- funding of market shortfalls or receipt of market surpluses under clause 3.15.23,

but not procurer of last resort cost allocation under clause 3.15.9A.

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52 The Commission expects these costs to be in the order of a few dollars a year for a generator supplying a SAPS customer with an average load of 10MWh pa.

53 See *Retailer Reliability Obligation factsheet* available at www.energy.gov.au.

54 Draft proposed clauses 3.21.1(b)(3)(iii)-(ix).

3.3.2 Payments to SAPS service providers by DNSPs

As noted in section 3.3.1 above, the SAPS service delivery model has been designed such that AEMO would pay the SAPS settlement price to each individual SAPS generator for energy generated, via the MSGA. The DNSP would then provide each SAPS generator with a make-whole payment ('SAPS support payment'), consistent with the contractual arrangements for SAPS generation services between the DNSP and the SAPS generator.

The Commission has considered whether it is necessary to include a mechanism in Chapter 6 of the NER to clarify a number of matters associated with the procurement of SAPS services by DNSPs. Specifically, the Commission has had regard to:

- the treatment of forecast operating expenditure (opex) associated with long-term SAPS contracts by the AER
- the treatment of the amounts payable by AEMO for electricity generated in the calculation of the allowance for SAPS support payments, and
- the management of risk associated with potential variability in SAPS costs resulting from variations in amounts payable by AEMO for electricity generated.

In respect of the first point, the Commission has taken the view that SAPS should not be subject to unique opex arrangements compared to any other item of operational expenditure. Currently, DNSPs sign procurement contracts for a range of services (including demand management, vegetation management and corporate services) and the AER sets a revenue allowance based on forecast efficient opex expenditure.

Any 'unders or overs' compared to this forecast are subject to the AER's Efficiency Benefit Sharing Scheme (EBSS) which incentivises efficient expenditure relative to the forecast. The Commission understands that items of expenditure that are outside of a DNSP's control (for example, state government taxes and levies) are subject to the same opex forecast and EBSS methodology. In the case of SAPS, the Commission would expect DNSPs to be able to control the cost of the SAPS service to some extent through their procurement process.

In respect of the second point above, the SAPS service delivery model has been developed on the assumption that DNSPs will take into account the SAPS settlement price when negotiating the SAPS support payment. On the basis that it is unlikely that a SAPS service provider will take market risks, the SAPS support payment will need to be able to finance the design, construction and operation of a SAPS generator. To this end, any variations in the SAPS settlement price or electricity consumption within the regulated SAPS which influence the amount payable to the SAPS generator by AEMO will need to be taken into account in the calculation of the service charge payable to a SAPS service provider. The Commission notes that the SAPS support payment should provide the SAPS generator with a reasonable rate of return at all times, but without allowing for windfall gains.

In respect of the final point above, the Commission expects that that allocation of risk associated with variations in wholesale revenue (as a result of changes in the SSP or customer electricity demand) would be best addressed through commercial contract negotiations between the DNSP and the third-party SAPS provider, rather than being specified in the Rules.

To the extent that SAPS costs are going up or down, the Commission expects that DNSPs would be able to manage this within their overall budget, consistent with other capex and opex costs forecast by the AER.

4 SAPS SETTLEMENT PRICE

In the priority 1 final report, the Commission indicated that one of the key areas of focus during the development of rules for the DNSP-led SAPS framework would be the design of an administered price to settle the delivery of energy to SAPS customers.

This chapter outlines the Commission's recommended approach to setting a SAPS settlement price (SSP). It includes recommendations in respect of the design of the SSP to ensure that SAPS customers continue to receive the full benefits of retail competition and that retailers are able to adequately manage risk associated with serving SAPS customers. It also includes recommendations in respect of the design of the arrangements to support the determination and administration of the SSP, for example, the timing and frequency of price adjustments.

4.1 Background on wholesale market price risks

The wholesale component of electricity supply costs is made up of a number of elements including wholesale spot costs, hedging costs, ancillary services fees, NEM participant fees and transmission and distribution network losses. To manage their financial risks and have more certainty over wholesale energy costs, retailers enter into various wholesale hedging contracts. These contracts fix (in whole or in part) the wholesale price retailers pay for electricity over the course of a year, or several years. Retailers then set their retail prices to customers to allow for the recovery of their total costs to serve, including their hedging costs.

The options available to retailers to manage their financial risk under the proposed SAPS service delivery model present a number of practical challenges and trade-offs between simplicity and complexity in the design of a price setting mechanism.[55] The purpose of settling SAPS customers at a more certain price (rather than spot prices) is to minimise the retailer's exposure to wholesale spot price volatility and, in doing so, remove the need for retailers to seek hedges with NEM generators for their SAPS customer load. This, in turn, will reduce the risk of potential distortions in the contract market.

The settlement of SAPS customers on a more certain price will minimise the level of risk faced by retailers and limit any risk-based cost being passed onto SAPS customers. To remove price risk altogether, the price at which SAPS customers are settled would need to be set at or below retailers' costs of hedging, with as much certainty as possible. This would incentivise retailers to continue to supply SAPS customers under their existing retail offers.

In turn, this continuity will support the seamless transition of existing grid-connected customers to SAPS and enable SAPS customers to be left no worse off in terms of price and other contract conditions, following the transition to SAPS supply. Allowing for equivalent prices is one reason DNSPs need not be required to seek formal consent from customers for their transition to SAPS.

55 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 2.

4.2 Commission's recommended position in SAPS priority 1 report

As detailed in the previous chapter, under the priority 1 final report,[56] the Commission's approach was that existing NEM regulatory arrangements should apply for DNSP-led SAPS and only be modified to the extent necessary to allow for supply to be provided by SAPS. This was to meet the objective that individual customers should not be disadvantaged where a distributor determined that it would be more efficient to supply them on a stand-alone basis. This would include retaining access to all consumer protections, including equivalent pricing protections in the form of continued access to retail competition.

On this basis, utilising the existing wholesale energy market arrangements makes it feasible for the SAPS retail service to be provided by competing grid retailers. This would also allow SAPS customers to maintain their relationships with existing retailers, and to retain their existing retail offers.

In the final report, the Commission noted that the use of administered price rather than the NEM spot price has a number of benefits. These relate primarily to the fact that retailer risk associated with price volatility in the spot market, and therefore the need for retailers to hedge SAPS customers' load with NEM generators, will be removed by using an administered price for the settlement of SAPS customers load.[57]

Additionally, the Commission noted that the settlement of energy provided by SAPS generators and provided to SAPS customers using an administered price will remove incentives for retailers to send SAPS customers price signals that are inconsistent with minimising the cost of SAPS.[58]

The Commission also indicated that one possible approach to determining and implementing the SSP would be to include a relatively simple formula in the rules which would set the price to apply for a specified period (for example, one year). AEMO could be required to notify the market a certain amount of time in advance of the wholesale price to be applied to SAPS customer loads for the upcoming period. The AER, consistent with its existing functions, would be responsible for ensuring the SSP was set and notified in accordance with the rules.[59]

4.3 Commission's analysis and draft position

4.3.1 Overview

The SAPS settlement price makes up a core element of the Commission's proposed SAPS service delivery model. The purpose of the SSP is to remove retailer exposure to price volatility within the spot market associated with serving SAPS customers load, that retailers would otherwise face. This is intended to remove the incentive for a retailer to seek to hedge SAPS customer load with NEM generation. An outcome of this is that retailers will be incentivised to continue to serve SAPS customers. By eliminating the need for retailers to

56 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019.
57 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 70.
58 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 68.
59 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 121-122.

pass through pricing risk to customers, the SSP also reduces the risk of customers receiving price signals which are designed for the NEM and may not be consistent with the optimal use of SAPS.

The Commission engaged Houston Kemp to consider the design of the SSP in detail and provide advice on the potential approaches to setting an administered price for SAPS.[60] Houston Kemp assessed the various options and features having regard to several principles designed to deliver a mechanism for setting the SSP that:

- removes or substantially reduces the price volatility associated with serving SAPS customers and, in doing so, limits the need for retailers to seek hedges from the contract market, and
- allows retailers to supply SAPS customers using market offers also offered to standard supply customers connected to parts of the DNSP's network forming part of the interconnected grid.

Houston Kemp's advice is published with this draft report. Having considered the various options put forward by Houston Kemp, the Commission is proposing an SSP that includes the following design features:

- The SSP would be based on historical wholesale price data and set at a level that would present retailers with limited incentives to seek out hedging for SAPS customers' load.
- The data sample period would be calculated over a twelve-month period using historical wholesale prices.
- The SSP would have an annual outlook period and would be updated on 1 July each year.
- The SSP would be given effect through a simple formula described in the NER, which AEMO would apply in settlement.

These design features are discussed further in the following section.

4.3.2 Key design features of the SSP

Pricing data source

A key objective of the SSP is to remove wholesale price risk associated with SAPS customers, and so the need for retailers to hedge SAPS customer load. In the NEM, retailers' ability to enter into hedging contracts will depend on the markets' liquidity, determined by the availability of trades to lock in an agreed wholesale price. If retailers are exposed to wholesale price risk for their SAPS customers they will be likely to hedge SAPS customers' load with contracts from NEM generators. If demand for hedging contracts increased, without any increase in the supply of hedges from NEM generators, retailers may find it more difficult to find hedging contracts that meet their needs. A likely consequence of this mismatch in the demand and supply of hedging contracts is an increase in the cost of hedging and subsequently increased retail prices.

60 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019.

The SSP therefore needs to be set at a level which removes the price risk for retailers associated with their SAPS customer load and therefore avoids potential distortions in the contract market, including reductions in contract market liquidity.

In applying this principle to the design of the SSP, the Commission first considered a number of options for price data sources including:

- historical wholesale price data, and
- contract price data including in relation to base load swaps, base load caps and peak swaps.

Based on the advice provided by Houston Kemp,[61] the Commission considers the use of a sophisticated contract-based approach would present additional complexity and administrative burden that is not justified in the context of a SAPS pricing mechanism. Employing a more sophisticated contract-based approach to hedging would also be more challenging in light of liquidity and data access issues in some jurisdictions.[62]

Instead, recognising the need to maintain predictable outcomes for all participants, the Commission supports a price setting approach for the SSP that uses a simple calculation based on historical wholesale prices, with an adjustment.[63] This approach would support the removal of unnecessary risk for retailers servicing SAPS customers and ensure retailers continue to have a strong incentive to serve SAPS customers. Providing this incentive requires setting a price that ensures that retailers continue to make a profit from serving these customers. It follows that this approach will also meet the broader objective of enabling SAPS customers to retain choice and control over their retailer and retail offer.

Price setting calculation

The Commission has also given consideration to appropriate data sample period of wholesale prices for calculating the SSP and how frequently the calculation should be updated. To balance the simplicity of the price setting approach with the need to reflect prevailing wholesale market conditions, the Commission considers using a year-long interval adequately captures general market changes. The alternative of setting a more frequent quarterly data sample period may lead to variations in price, based on seasonal trends, which may increase the tendency for retailers to hedge their SAPS customers.[64] However, setting the SSP for a complete year will mean that the SSP may be less reflective of prevailing market conditions due to the use of longer-term historical data. In turn, this may present the risk of misalignment of the SSP and actual wholesale costs faced by retailers.[65]

To address this concern, the Commission draws on Houston Kemp's advice and proposes that a conservative adjustment of 0.8 is applied to the previous year's average wholesale price to

61 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 27-28.

62 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 10.

63 The SSP seeks to manage wholesale spot and hedging costs and risk faced by retailers who take on SAPS customers. Distribution loss factors (DLF) make up an additional component of wholesale electricity supply costs that feed into wholesale market settlement. The Commission's proposed approach to the adjustment of the SSP to account for DLF is set out in Chapter 3.

64 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 13.

65 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 13.

mitigate the risk of a case arising where the SSP is greater than the wholesale cost faced by retailers (in which case retailers would not wish to supply SAPS customers).[66]

Update frequency, outlook period and price averaging approach

In considering the design features of the SSP using wholesale prices, the Commission has given consideration to the frequency with which the administered price is updated and the period for which prices are set (the outlook period) and how spot prices are averaged across a sample period.

The Commission considers that the SSP should be updated on an annual basis with an annual outlook period. The Commission's intention is to provide certainty for retailers with regard to the future SSP that will be payable and to limit the cost and burden associated with calculating the SSP. Compared to a quarterly update frequency, the adoption of an annual update frequency may mean SSP prices are less reflective of prevailing market conditions.[67] However, it is the Commission's view that the benefit of greater certainty for stakeholders, and particularly retailers, with regard to future prices for SAPS customers outweighs a more accurate reflection of prevailing market conditions. This is on the basis that an annual update frequency contributes to mitigating existing risk for retailers. Additionally, fewer resources would be required to update the SSP annually, compared to quarterly.

As was the case with the update frequency, there is a trade off between setting an annual outlook period and, in doing so, providing greater certainty to retailers with regard to price, and setting a quarterly outlook period which would be more responsive to market conditions.[68] The Commission's proposed draft position is an annual outlook period as it aligns with the proposed update frequency and therefore provides increased certainty of future prices.

The Commission also gave consideration to how wholesale prices could be averaged including an average across time and a demand-weighted average. Using time-weighted averages is simple to implement and requires limited data, while using demand-weighting should result in estimates that more closely resemble the true electricity supply costs for retailers.[69] The Commission is of the view that the degree of precision inherent in demand-weighting is not required and therefore proposes that the approach to calculating the wholesale price under the SSP should be based on a time-weighted average.

Giving effect to the SSP

The Commission has considered how the price setting mechanism would be given effect in the rules and considers it is appropriate that a description of the formula is placed in Chapter 3 of the NER which would set the SSP for a specified period.[70] Consistent with the SAPS priority 1 final report, the Commission proposes that AEMO will be required to notify the

66 See Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 25 for further detail on how the adjustment factor is derived.

67 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 14.

68 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 15

69 Houston Kemp, *Designing a pricing mechanism for distributor-led stand-alone power systems*, November 2019, p. 16.

70 Draft proposed NER clause 3.21.2.

market in advance of the price to be applied to SAPS customers' load. The notice to the market must be by way of a notice published on AEMO's website that outlines the SSP price and the period for which it is to apply. On the basis that the SSP would be determined through a simple formula in the NER for use by AEMO in settlement, the Commission considers that AEMO is the appropriate party to notify the level of the SSP to apply. In addition, an approach based on a simple calculation also provides a transparent and streamlined process to setting the SSP.

The Commission acknowledges that the SSP will be used by various stakeholders, including AEMO for settlement purposes along with DNSPs and affiliated entities or retailers with SAPS customers. As a simple calculation, based on historical wholesale prices, the SSP can be updated with relative ease. Prices from the relevant sample period can be fed into the calculation for the following period once information becomes available.

Description of SSP calculation

Based on advice provided by Houston Kemp, the Commission's proposed option to calculate the SSP using wholesale prices includes:

- a time weighted average;
- an annual outlook period;
- an annual update frequency;
- the prior year of data; and
- a conservative adjustment factor of 0.8.

The SSP will be calculated for a particular financial year using a time-weighted average of the previous year's prices within each region. This approach will calculate the set of prices for the year at 1 July each year (the start of the financial year).

The SSP is calculated as follows, for year *i* and region *r*:

$$SAPSP_{i,r} = 0.8 \times Year\ Average_{i-1,r}$$

Where the year average is calculated as follows, for year *i-1,* region *r* and period *p*:

$$Year\ Average_{i-1,r} = \frac{\sum_{p=a_{i-1}}^{b_{i-1}} RRP_{i-1,r,p}}{N_{i-1}}$$

Where:

- *p* is the period for which wholesale prices are set (e.g 30 minute trading interval);
- *a* is the first period within year *i*-1;
- *b* is the final period within year *i*-1:
- *RRP* is the regional reference price for period *p*; and
- *N* is the total number of periods within year *i*-1.

5 SAPS SERVICE CLASSIFICATION

This chapter explores a number of issues related to the classification and economic regulation of the distribution service provided by means of a stand-alone power system. The first issue was raised in the SAPS priority 1 final report as a matter the Commission would consider further during the rule drafting stage of the review. It relates to the classification of the distribution service provided by means of a SAPS distribution system.

The second issue has been raised by several stakeholders following publication of the SAPS priority 1 final report. This issue relates to the provision of the SAPS generation service by DNSPs in certain limited circumstances under a waiver of the AER's ring-fencing guideline.

This chapter sets out the Commission's draft recommended approach to addressing each of these issues within the NER.

5.1 Background

Supplying electricity to customers via poles and wires connected to the national grid is a core distribution service that is currently classified as a standard control service. DNSPs earn regulated returns for these services and typically charge all customers receiving the same standard control service the same network prices based on fixed charges and the volume of electricity consumed (rather than charging different customers different prices depending on the cost to provide that service to the customer).

In the SAPS priority 1 final report, the Commission recommended specific changes to the NEL to enable DNSPs to recover expenditure on SAPS from regulated revenue.[71] Specifically, the Commission recommended changes which would allow the service provided by means of a SAPS solution which replaces, or substitutes, all of a distribution system for a given customer, to be treated as a distribution service. The recommended NEL changes, when made, will allow DNSPs to purchase SAPS services from the competitive market (or to install SAPS themselves if so allowed by the AER), in order to supply electricity to customers where SAPS supply provides an efficient alternative to grid-supply.

Distribution service classification

Service classification is the first step in the distribution network regulation process because it determines which services will be economically regulated and in what form. It is a key input into DNSPs' regulatory proposals and the AER's distribution determinations. Services that are considered to be distribution services may be assigned a specific service classification in the NER, or may otherwise be classified by the AER. Service classification is the basis for the application of ring-fencing.

In the context of SAPS, the service classification framework provides a means for determining whether the activities and services associated with the generation, distribution and possibly also the sale of electricity, within a SAPS:

71 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019.

- are distribution services, and so fall within the NER service classification framework,
- constitute 'other services' (non-distribution services) and so cannot be classified and are therefore unregulated, or
- are inputs to a distribution service and so also cannot be classified and are therefore unregulated.

Importantly, the approach taken to the classification of the activities and services associated with SAPS is directly linked to the SAPS service delivery model and the changes to definitions in the NEL and NER implemented as an outcome of this review.

Ring-fencing of regulated distribution services from other services

Given that service classification is the basis for the application of ring-fencing, the classification of SAPS services by the AER will impact on DNSPs' ability to provide these services themselves.

Ring-fencing involves the identification and separation of business activities, costs, revenues and decision-making for direct control services from those that are associated with providing services in a competitive market. The AER's electricity distribution ring-fencing guideline imposes obligations on DNSPs to separate the legal, accounting and functional aspects of regulated distribution services from other services provided by a DNSP or an affiliated entity.[72]

The objective of the ring-fencing obligations is to provide a level playing field for third party providers in new and existing markets for contestable services, such as those for metering and energy storage services, in order to promote competition in the provision of electricity services. Without effective ring-fencing, DNSPs could hold significant advantages in such markets.

The AER's ring-fencing guideline addresses two potential harms with two separate sets of obligations for DNSPs.

- First, the Guideline addresses the risk of a DNSP cross-subsidising other services with revenue earned from provision of distribution (and transmission) services. It does this through legal separation of the DNSP, which may only provide distribution services, from affiliated entities that may provide other electricity services.[73] This is supported by other obligations for the DNSP to maintain separate accounts, follow defined cost allocation methods and be able to report on transactions between itself and its affiliates.[74]
- Second, the Guideline addresses the risk of a DNSP favouring its own negotiated services or other distribution services, or an affiliated entity's other electricity services, in contestable markets. It does this by imposing behavioural obligations on the DNSP,

72 See NER chapter 6, Part H and the AER's Ring-fencing Guideline - Electricity Distribution version 2, October 2017 (the Ring-fencing guideline).

73 Ring-fencing guideline, section 3.1(b). DNSPs may (and some do) provide transmission services in addition to distribution services.

74 Ring-fencing guideline, section 3.2.

including restrictions on sharing and co-locating staff, information and on co-branding of advertising materials.[75]

The AER may grant a waiver (on application) from the prohibition on DNSPs providing non-distribution services, for instance where a DNSP is required by law to provide the non-distribution service.[76] One example given by the AER of services where a waiver may be granted is "isolated network services in remote areas".[77]

The AER will consider waiver applications having regard to the national electricity objective, the potential for cross-subsidisation and discrimination if the waiver is granted or refused, and whether the benefit to the DNSP's customers of complying with the obligation (including any likely benefit from increased competition) would be outweighed by the costs to the DNSP of complying with that obligation.[78]

In addition, the ring-fencing guideline includes a number of exemptions to specific obligations in certain circumstances.[79]

In summary, the ring-fencing guideline requires non-distribution services ('other services') be provided by a third party, a subsidiary or other affiliate of a DNSP, or by a DNSP if the circumstances are such that the prohibition is waived.

5.2 Commission's recommended position in SAPS priority 1 report

In the SAPS priority 1 final report, the Commission recommended that the NEL and NER be amended to enable DNSPs to utilise SAPS to provide distribution services.[80] This would allow DNSPs to recover revenue for these services via regulated revenue where:

- DNSPs must undertake expenditure in order to provide services to meet their regulatory obligations or licence requirements, and
- it is more efficient for DNSPs to provide these services via a SAPS solution rather than by replacing or upgrading parts of the distribution system.

The Commission considered the various ways that the NER and NEL could be amended in order to realise this change and recommended an approach whereby the NEL will provide for the rules to prescribe which components of a SAPS will be considered to provide distribution services, and so will be subject to classification by the AER.[81]

75 Ring-fencing guideline, section 4.

76 Ring-fencing guideline, section 5.

77 In this case, the AER would consider granting a waiver from the guideline's legal separation obligation. AER, *Electricity Distribution Ring-fencing Guideline - Explanatory Statement*, November 2016, pp. 42-43.

78 Ring-fencing guideline, section 5.3.2.

79 For example, in respect of regional and remote areas, the guideline includes an automatic exemption from the physical separation requirements for regional offices that have less than 25,000 customer connection points within a 100 kilometre radius of the office. Ring-fencing guideline, section 4.2.1(b)(iii). This exemption recognises that the requirement for physical separation may impose unnecessary additional costs on a DNSP. It also recognises that, in these areas, the potential for development of competition may be limited.

80 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 80.

81 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 81.

Having regard to the recommended SAPS service delivery model, it was (and, as noted below, remains) the Commission's view that a stand-alone power system comprises two components, each providing a separate service:[82]

- a stand-alone power system distribution system, which will provide a distribution service, and
- a generating system(s) connected to the stand-alone distribution system, which provides a generation service and is also an input into the distribution service.

In respect of the second point, the Commission considered that the SAPS generator would be providing two distinct services. First, it would be providing a generation service to SAPS customers. This would not be part of the distribution service provided by DNSPs to SAPS customers and would be paid for via AEMO through the wholesale market at an administered settlement price (see chapter 4). Second, the SAPS generator would be providing a service to the DNSP and would be paid the contractually agreed amount by the DNSP. To this extent, the SAPS generation would be providing an input into the distribution service.

The outcome of the above is that the services provided by the SAPS generator both to the DNSP and to the SAPS customer would not be subject to classification by the AER. Further, the generation service provided to SAPS customers would not be a distribution service for the purposes of economic regulation meaning that the AER's ring-fencing guideline would, by default, prevent DNSPs from providing SAPS generation services directly. Unless granted a waiver by the AER or subject to a deemed exemption, DNSPs will instead need to procure these services from a third party, a subsidiary or other affiliate of the DNSP.

The Commission noted that while the existing framework for distribution service classification in the NER is broadly appropriate and fit-for-purpose to support the AER in classifying the SAPS distribution service as a standard control service, there may be benefit in clarifying in the NER that the appropriate classification of the distribution services provided by means of a SAPS is as a standard control service.[83]

5.3 Commission's analysis and draft position

This section considers two key issues related to the Commission's recommended approach to the classification and economic regulation of the services associated with a SAPS, as set out in the SAPS priority 1 final report. It includes the Commission's recommended approach to addressing these issues within the NER.

5.3.1 Prescribing the classification of the SAPS distribution service as a standard control service

The driver behind allowing DNSPs to use SAPS to provide distribution services to existing grid-connected customers is the fact that DNSPs would be able to do so at a cross-subsidised price.[84] Without the cross-subsidy, existing customers would be unlikely to choose to leave

82 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 81.
83 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, pp. 81-82.
84 This is the case for jurisdictions in which there is no direct subsidy for rural customers through retailers, such as Queensland.

the grid and the potential reductions in distribution costs for all customers from moving certain customers to SAPS supply would not be captured.[85]

Therefore, for DNSPs to continue to cross-subsidise the provision of distribution services to SAPS customers, the services and activities provided by means of a SAPS (which includes both a generation and distribution system) must include a distribution service which has, or will be, classified by the AER as a standard control service. Without this classification, the cross-subsidy would be lost, and SAPS customers would be subject to the full costs of the SAPS service. Put another way, this classification enables DNSPs to charge SAPS customers the same price for distribution services as it charges grid-connected charges.

In general, the Commission considers that the existing framework for distribution service classification in the NER is broadly appropriate and fit-for-purpose to support the AER in determining the classification of the distribution service provided by means of a SAPS. However, the Commission does have some concerns that in certain circumstances – for example, where the assets associated with the stand-alone distribution system are difficult to discern, as might be the case for individual power systems – there is likely to be some benefit in providing the AER with additional guidance in respect of how the services and activities associated with a SAPS should be treated within the regulatory framework.

For this reason, the Commission is proposing to include a number of provisions in the rules which would have the effect of clarifying:

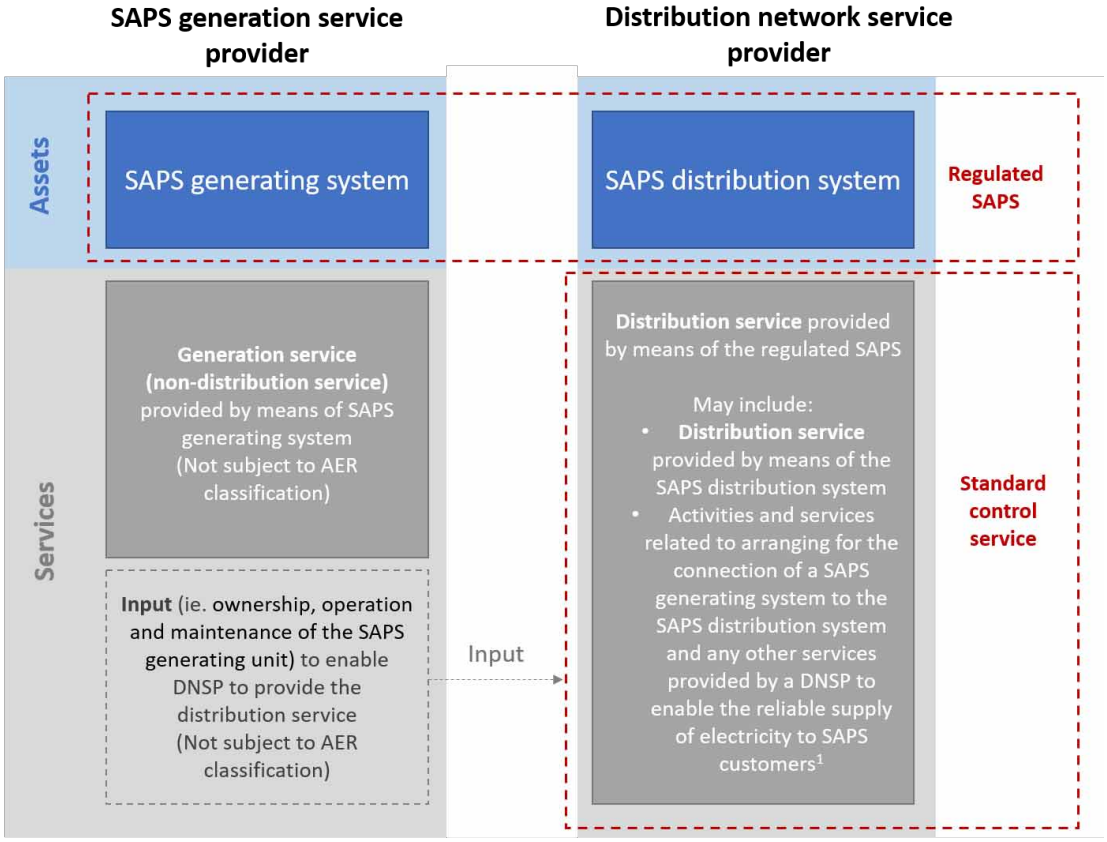
1. which services and activities provided by means of a SAPS are distribution services and so subject to classification by the AER
2. that the distribution services provided by means of a SAPS are to be classified by the AER as direct control service (as opposed to negotiated distribution services), and
3. that the direct control services provided by means of a SAPS are to be further classified by the AER as standard control services (as opposed to an alternative control service).

The proposed guidance to the AER has been developed on the basis of the Commission's view that a stand-alone power system comprises two components: (1) a SAPS distribution system, which will provide a distribution service, and (2) a generating system(s) connected to the SAPS distribution system, which provides a generation service and is also an input into the distribution service.

This characterisation of the assets and services provided by means of a SAPS is illustrated in the figure below.

85 Further to this, it could be argued that remote customers who have previously paid potentially significant cost-reflective connection charges to connect to the grid in order to receive supply at a cross-subsidised price are entitled to continue to receive grid supply or equivalent into the future (given that they have paid for it).

Figure 5.1: Regulated stand-alone power system and services



[1] These activities and services could also be treated as an input into the standard control service

Source: AEMC

To give effect to this guidance, the Commission is proposing to include in the rules a set of principles to which the AER must give effect when identifying and classifying the distribution services provided by means of a stand-alone power system.[86]

In summary, the draft proposed rules require that:

- the distribution service provided by means of a SAPS distribution system must be given the same classification that it would have been given if the service were not provided by means of a DNSP-led SAPS[87]
- the activities of a DNSP in establishing, operating or maintaining a regulated SAPS or arranging for the provision of services or facilities required for the operation of a

86 Draft proposed NER clause 6.2.1A(b) and (c).
87 Draft proposed NER clause 6.2.1A(b).

regulated SAPS must be classified as a standard control service or treated as an input into a standard control service.[88]

Importantly, the proposed rules recognise that in order to implement a SAPS solution, a DNSP will (unless granted a waiver by the AER) be required to contract with a small generator to design, install, operate and maintain SAPS generation assets to supply electricity to customers connected to the SAPS. The activities of the DNSP in relation to that contract (including payment of contract charges) should be classified either as standard control services or considered as an input into a standard control service, as set out above. However, the generation of electricity consumed by retail customers connected to the DNSP SAPS and the sale of the electricity by the retailer are not distribution services, and therefore will not be classified by the AER.[89]

The Commission notes that the proposed approach to the classification of the activities related to the administration of contracts between DNSPs and SAPS service providers is similar to the approach taken by the AER to the classification of activities related to 'shared asset facilitation'. Currently, these activities are considered to be a 'common distribution service' and are therefore classified by the AER as a standard control service.[90]

The Commission also notes that it does not envisage that DNSPs would reassign SAPS customers to a new tariff class. Consistent with the Commission's proposed position that DNSPs should not be required to obtain explicit consent from customers in order to transition them to off-grid supply, it is expected that customers will continue to benefit from equivalent price outcomes when transitioned to a DNSP-led SAPS. Therefore, the Commission's proposed draft rule seeks to clarify that customers connected to DNSP SAPS should be treated no less favourably than grid-connected customers with a similar load profile.[91]

5.3.2 Waivers from AER ring-fencing obligations

As noted above, it is the Commission's view that a SAPS generating system(s) connected to a stand-alone distribution system will provide a generation service. This generation service is not a distribution service and the default position is therefore that the AER's ring-fencing guideline would prevent DNSPs from providing this service directly.

The objective of ring-fencing is to promote competition in the provision of electricity services which, in this case, would include SAPS generation services. The provision of services through competitive markets can lead to greater efficiency and lower costs in the long term.

However, in a market where SAPS supply is only just emerging as a feasible alternative to traditional network investment, there is some uncertainty around the extent of contestability in the provision of certain SAPS activities and services, including those associated with SAPS generation. Technical solutions are still evolving, and the integrated nature of smaller systems in particular means that the extent to which the ring-fencing of SAPS generation services would represent the most efficient approach is unclear.

88 Draft proposed NER clause 6.2.1A(c).
89 Note to draft proposed NER clause 6.2.1A(c).
90 AER, *Electricity Distribution Service Classification Guideline,* September 2018, Appendix A, p.1.
91 Draft proposed NER clause 6.18.4(a).

In addition, while SAPS may not have natural monopoly characteristics in relation to fixed and marginal costs, it is possible that SAPS support services (particularly in relation to generation maintenance and support), may continue to exhibit natural monopoly characteristics in remote areas, even over the long term.[92]

Further, the Commission recognises that in certain urgent and unforeseen circumstances (for example, in the wake of a bushfire), it may not always be appropriate to expect a DNSP to procure SAPS generation services from a third-party provider (where a DNSP has identified SAPS as a preferred option to line replacement) where supply to a customer(s) must be returned as soon as possible.

For these reasons, there is likely to be a need for some flexibility in the application of ring-fencing requirements in the context of stand-alone power systems. The AER's ring-fencing guideline already recognises that strict adherence to the ring-fencing obligations might, in some circumstances, result in outcomes that are not in the interests of consumers.[93] The guideline therefore makes provision for:

- the AER to grant waivers (on application from the DNSP) from the prohibition on the provision of non-distribution services by the DNSP, and
- deemed exemptions to specific ring-fencing restrictions.

In general, the Commission considers that the rules provide sufficient flexibility and suitable means for the AER to consider relaxing some, or all, of the ring-fencing restrictions in circumstances where it may be appropriate or more efficient for a DNSP to provide SAPS generation services directly.

That said, in recent discussions between AEMC staff and stakeholders following publication of the SAPS priority 1 final report, several DNSPs have expressed concern that reliance on the existing waiver process is likely to create some uncertainty around SAPS investment decisions. The Commission understands that this concern is primarily driven by the fact that the existing waiver process currently provides the AER with the ability to grant interim waivers, and to revoke waivers at short notice.[94]

In addition, the circumstances under which the AER would consider granting a waiver, the evidence that a DNSP would be required to provide the AER in support of a waiver application, the AER's process for assessing a SAPS-specific waiver application and the timeframes associated with the application process itself, have also been raised informally as potential sources of uncertainty in respect of the suitability of the existing waiver process in the context of SAPS.

In discussions with the Commission, the AER has indicated its commitment to considering the waiver process set out in its ring-fencing guideline in order to better understand the suitability of this process in the context of SAPS. As a first step, the AER intends to publish an

92 AEMC, *Review of regulatory arrangements for stand-alone power systems - priority 1*, Draft report, 18 December 2018, p. 90.

93 For example, the AER must have regard to "whether the benefit, or likely benefit, to electricity consumers of the DNSP complying with the obligation (including any benefit, or likely benefit, from increasing competition) would be outweighed by the cost to the DNSP of complying with that obligation". Ring-fencing guideline, section 5.3.2.

94 Ring-fencing guideline, sections 5.3.3 and 5.5.

explanatory note in December 2019 which aims to provide distribution businesses with transparency of, and certainty around, the waiver application process in respect of DNSP SAPS. Among other things, the note is intended to address matters such as how best to engage with the AER in applying for a waiver from the ring-fencing obligations, and the evidence DNSPs would be expected to provide to the AER to support an application. Stakeholders are welcome to submit their views on the AER's explanatory note — for consideration by the AER — in their submissions to this draft report.

6 IMPLEMENTATION

This section sets out the proposed timetable for implementing the new framework and the steps that will need to be undertaken by the COAG Energy Council, market institutions, jurisdictions and industry before the framework commences. The new framework will be implemented by:

- Parliamentary Counsel drafting the law changes to the NEL and NERL, based on the Commission's proposed law changes provided to the COAG Energy Council in May 2019,[95] and the South Australian Parliament making the law changes
- the COAG Energy Council approving changes to the NER and NERR, based on the Commission's proposed rule changes due to be provided to the COAG Energy Council in May 2020, and the South Australian Minister for Energy making the proposed rule changes, and
- relevant jurisdictions amending their NERL application Acts to allow the consumer protections under the NECF to apply to DNSP-led SAPS.

The Commission proposes that the new framework should be implemented by mid-2021, subject to the passage of legislation through the South Australian Parliament (and noting that the new framework will not take effect in a jurisdiction until that jurisdiction opts in). The Commission has provided for transitional rules that are linked to the commencement date of the amending rules or until such time a jurisdiction has opted in.

Further, the Commission recommends that the COAG Energy Council and the SA Minister for Energy coordinate with the Commission, AER and AEMO to ensure the commencement date, effective date and proposed law and rule changes proposed to implement the DNSP-led SAPS framework factor in other major legislative and rule changes such as Global Settlements (which commences in February 2022).

6.1 Implementation and key dates

The regulatory framework for stand-alone power systems will not be implemented until the complete package of national energy law and rule changes have been made.

On 22 November 2019, the COAG Energy Council gave consideration to the proposed law changes presented in the SAPS priority 1 final report. In its formal response,[96] the Energy Council noted that the Commission had already started developing advice on a package of rule changes, and would provide a draft report in December 2019.[97] The Commission intends to present a complete package of rule changes to be delivered to the COAG Energy Council in May 2020. Together, the law and rule changes could be approved in mid-2020 and made

95 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, Appendix C

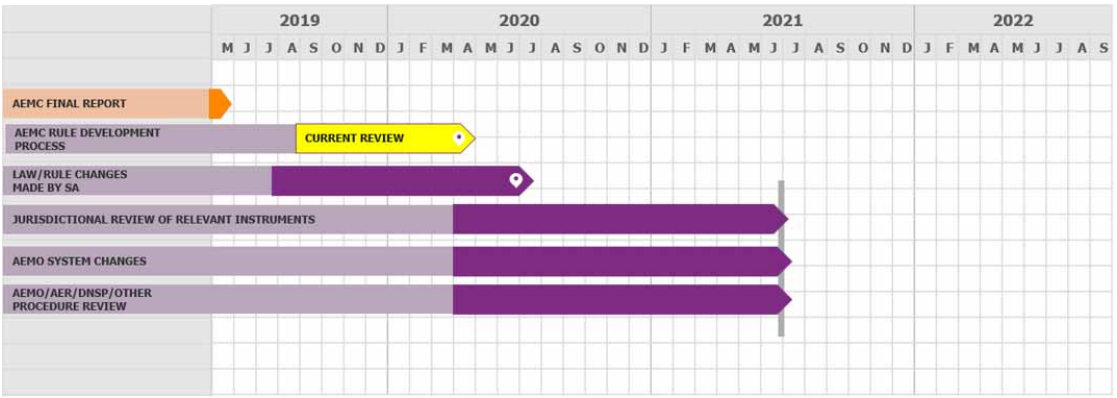
96 COAG Energy Council, *Australian Energy Market Commission Review of the Regulatory Frameworks for Distributor-led Stand-Alone Power Systems - Priority 1 Final Report*, Response, p. 4.

97 In addition, the COAG Energy Council's Senior Committee of Officials has established a working group to progress recommendations from the *Review of the regulatory framework for stand-alone power systems – priority 1* and *Updating the regulatory framework for embedded networks review*. The AEMC will continue to liaise closely with the working group to progress this work.

shortly thereafter. The Commission's recommended framework could then take effect by mid-2021, subject to jurisdictions finalising all necessary jurisdictional arrangements (such as amending NERL application Acts, where necessary) and opting in.

An overview of the approach to implementation of the recommended regulatory framework for DNSP-led SAPS is set out in Figure 6.1 (noting that the date for law and rule changes remains uncertain).

Figure 6.1: Implementing the recommended regulatory framework for SAPS



Source: AEMC

6.2 Draft proposed rules

The Commission's draft proposed rules to implement the DNSP-led SAPS recommended framework are explained through this report and its appendices, and are published with this report. For ease of reference, Appendix D summarises all the proposed changes to the NER and NERR that the Commission considers would be necessary to allow for DNSP SAPS to be implemented and regulated in the manner outlined in this report. Stakeholders are invited to comment on any or all of the Commission's proposals. Any comments received will be considered in detail and amendments made as appropriate ahead of the final proposed rules being delivered to the Energy Council in May 2020.

6.3 Key changes to jurisdictional arrangements to adopt the framework

In conjunction with the enactment of the recommended national law and rule changes, and prior to opting in to the new framework, jurisdictions will also need to make amendments to relevant jurisdictional instruments. The need for, and scope of, these amendments was discussed in the SAPS priority 1 final report.[98] The next two sections provide a summary of those recommendations.

98 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019.

6.3.1 Changes to NERL application Act in certain jurisdictions

In New South Wales, South Australia and Tasmania, the Acts adopting the NERL as a law of those jurisdictions currently contain provisions limiting the application of the NERL (in those jurisdictions) to the sale of electricity to customers whose premises are connected, or are to be connected, to the interconnected national electricity system within the meaning of the NEL.[99] These restrictions would prevent the consumer protections in the NECF applying to customers of SAPS even if the law and rule changes described in this report have been made.

In the final report for priority 1, the Commission recommended changes to the application Acts which will remove the restriction of the NECF to the interconnected grid. These changes will ensure that DNSP SAPS customers receive the protections of the NECF. Details of these changes can be found in section 9.2.1 of the priority 1 final report.[100]

In Queensland, the application Act does not restrict the NECF to the interconnected grid. The NERL and NERR apply to Queensland stand-alone power systems unless the seller has an exemption.

6.3.2 Review of jurisdictional regulations

To provide a complete set of consumer protections and safety regulations, and to allow DNSPs to access land to distribute electricity via DNSP SAPS, the Commission considers it is important the jurisdictional energy regulatory frameworks apply to DNSP-led SAPS in an equivalent manner to standard supply. To this end, jurisdictions will need to review regulatory instruments, and if applicable, make amendments to remove any restrictions which would stop the identified jurisdictional regulations applying to DNSP-led SAPS prior to opting-in.[101]

The Commission proposes that state and territories consider the following functions as part of this review of jurisdictional instruments:

- access to state and territory concessions and rebates
- access to independent dispute resolution for distribution and retail services
- network reliability protection, including GSL schemes
- other GSL payments
- safety of electricity supply
- ability to access land required for the supply of electricity
- technical regulation, such as equipment and performance standards.

Jurisdictional action is especially important with regard to network reliability and technical regulation. This is on that basis that maintaining an equivalent level and quality of supply to DNSP-led SAPS as that received by standard supply customers was a key consideration of the

99 *National Energy Retail Law (South Australia) Act* 2011 (SA) s. 16; *National Energy Retail Law (Adoption) Act* 2012 (NSW) Schedule 1, s. 11 and National Energy Retail Law (NSW) No. 37a, s. 3A; *National Energy Retail Law (Tasmania) Act* 2012 (Tas) s. 17.

100 AEMC, *Review of the regulatory framework for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 118.

101 An more detailed overview of the Commission's proposed application of jurisdictional regulation can found in the AEMC's R*eview of the regulatory framework for stand-alone power systems - priority 1,* Final report, 30 May 2019, pp. 84-95 and Appendix B.

Commission in deciding to recommend allowing DNSPs to transition customers to DNSP-led SAPS (where it is more economically efficient than standard supply).

The Commission proposes that any changes to licensing schemes and other jurisdictional legislation be implemented by the date the framework comes into effect or (if later) the date the jurisdiction opts in to the framework.

6.4 Jurisdictional opt-in provision

In the SAPS priority 1 final report, the Commission recommended a restriction on DNSP participation in the national arrangements until such time as the relevant jurisdiction had opted in by making a regulation under that jurisdiction's NEL application Act.

This recommendation was given effect in the Commission's proposed changes to the national energy laws that:

- limit stand-alone power systems to systems located in adoptive SAPS jurisdictions (in both the NEL and NERL), and
- provide that an adoptive SAPS jurisdiction is a participating jurisdiction that has declared itself to be an adoptive SAPS jurisdiction, for example, by regulation made under its NEL application Act.

A jurisdiction may opt in at any time after the changes to the NEL and NERL outlined in the SAPS priority 1 final report have been made. It was the Commission's proposal that all relevant jurisdictions opt in promptly after this time, to provide a consistent national framework for DNSP SAPS.[102] However, it was (and remains) the Commission's expectation that a jurisdiction will not opt in until it has reviewed the application of its jurisdictional instruments to SAPS and made any necessary changes, and if applicable has revised its NERL application Act, as discussed above.

Subject to jurisdictions opting in, the SAPS-related obligations set out in the rules will take effect on the dates set out in the amending rules. Jurisdictions that have not opted in will not be subject to these obligations, and DNSPs in those jurisdictions will not be able to supply customers using a DNSP SAPS. Once a jurisdiction has opted in, DNSPs will automatically be required to comply with the requirements of the recommended framework and the obligations set out in these rules for DNSP-led SAPS in regard to the ownership and operation of regulated SAPS, planning and engagement arrangements, connections and the application of consumer protections.

6.5 Implementation roles - AEMO and AER

The recommended regulatory framework for DNSP-led SAPS was designed to maintain consistency with as many aspects of the existing national energy market arrangements as possible.

The various powers, functions and accountabilities allocated to AEMO and the AER to support the efficient operation and use of SAPS are largely unchanged under the Commission's

102 With the exception of Western Australia, which is not part of the regulatory framework established by the NEL and NERL.

recommended framework. DNSP-led SAPS will, in effect, be brought within the scope of existing roles and responsibilities.

AEMO

The Commission's proposed SAPS service delivery model will require AEMO to amend its settlement systems to accommodate a SAPS settlement price for each region. While the Commission understands from AEMO that the current and future design of its market systems will be capable of managing the requirements for SAPS, implementation of a SAPS settlement price will nevertheless require a program of work to update systems and processes as needed, including updating relevant AEMO guides and procedures.

Consistent with the SAPS priority 1 final report, the Commission proposes that AEMO will be required to notify the market in advance of the price to be applied to SAPS customers' load. The notice to the market should be published on AEMO's website and provide the SSP price and the period for which it is to apply. Given the simplicity of the calculation to be applied to set the SSP and the accessibility of historical wholesale data required to do so, the Commission is satisfied that AEMO is the appropriate party to carry out this function.

Having regard to the Commission's proposed approach to registration (outlined in chapter 3), AEMO should also consider whether its Guide to generator exemptions and classification of generating units requires amendments to reflect the Commission's final proposed rules.

AER

The Commission's proposed regulatory framework for SAPS does not include a new enforcement role for the AER. Consistent with its existing powers and functions, the AER will be responsible for monitoring, investigating and enforcing compliance with the energy rules related to DNSP SAPS, having regard to its own compliance and enforcement priorities.

As discussed in appendix A, the draft proposed rule includes a new provision providing the AER with the ability to develop a SAPS customer engagement guideline.[103] This guideline may provide guidance on a number of matters, including on the form and content of DNSPs' SAPS customer engagement documents. While this provision provides the AER with complete discretion in respect of developing and publishing such a guideline, the Commission expects the AER will consider the relative merit or otherwise of doing so ahead of the SAPS framework being implemented.

In addition, there is likely to be merit in the AER reviewing and, where appropriate, amending a number of its existing guidelines to ensure they are consistent with the national arrangements for DNSP SAPS, ahead of the framework going live in 2021. This includes the following guidelines:

- Ring-fencing guideline (including waiver process)
- Distribution service classification guideline
- Cost allocation guideline
- Connection charge guideline

103 Draft proposed rule clause 5.13.4(f)-(h).

- RIT-D application guideline
- Asset exemption guidelines
- Distribution reliability measures guidelines
- Forecasting best practice guidelines
- Reliability compliance procedures guidelines
- MLO guidelines
- Consumer engagement guideline for network service providers.

At this stage, the Commission has not identified any issues with regard to the implementation timeline of mid-2021 (subject to the passage of legislation through South Australian Parliament) occurring at varied stages of DNSPs' regulatory control periods or regulatory determination processes. Therefore, the Commission is currently satisfied that no transitional requirements are needed in this area.

6.6 Lodging a submission

Written submissions on this draft report must be lodged with the Commission by 13 February 2020 online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code EMO0038.

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Where practicable, submissions should be prepared in accordance with the Commission's guidelines for making written submissions. The Commission publishes all submissions on its website, subject to a claim of confidentiality.

All enquiries on this project should be addressed to Rupert Doney on (02) 8296 7800 or rupert.doney@aemc.gov.au.

Stakeholders are also invited to provide any comments on the AER's Ring-fencing explanatory note as part of their submissions to the Commission on the draft report and draft proposed rules. The explanatory note can be located on the AER website via www.aer.gov.au.

The Commission further intends to hold a joint stakeholder workshop in late January 2020 to allow stakeholders to discuss matter arising from both this report and the AER's explanatory note.

ABBREVIATIONS

AEMA	Australian Energy Market Agreement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CESS	Capital expenditure sharing scheme
COAG	Council of Australian Governments
Commission	See AEMC
DAPR	Distribution Annual Planning Report
DLF	Distribution loss factor
DMO	Default market offer
DNSP	Distribution network service provider
EBSS	Efficiency Benefit Sharing Scheme
FCAS	Frequency control ancillary services
FRMP	Financially responsible market participant
GSL	Guaranteed service level
IPS	Individual power system
MCE	Ministerial Council on Energy
MSATS	Market settlement and transfer solutions
MSGA	Market small generation aggregator
NECF	National energy customer framework
NEL	National Electricity Law
NER	National Electricity Rules
NEO	National electricity objective
NERL	National Energy Retail Law
NERR	National Energy Retail Rules
NERO	National energy retail objective
NGL	National Gas Law
NGO	National gas objective
NMI	National metering identifier
NCAS	Network support control ancillary services
PoLR	Provider of last resort
RERT	Reliability and emergency reserve trader
RIT-D	Regulatory investment test for distribution
RRO	Retailer reliability obligation
SAIDI	System average interruption duration index
SAIFI	System average interruption frequency index
SGA	Small generation aggregator

SAPS	Stand-alone power system
SSP	Stand-alone power system settlement price
STPIS	Service target performance incentive scheme
TLF	Transmission loss factor
TNI	Transmission node identities
UFE	Unaccounted for energy
VDO	Victorian default offer

A SAPS PLANNING AND ENGAGEMENT

This appendix outlines the Commission's proposed changes to the existing planning arrangements to increase transparency around both the opportunities for, and decisions made in respect of, DNSP SAPS. It includes recommendations in respect of obligations for DNSPs to:

- report on DNSP-led SAPS projects
- revise their demand-side engagement strategies and documents
- develop a SAPS customer engagement strategy and guideline, and
- quantify all classes of market benefits.

In addition, the appendix sets out the Commission's proposed approach for giving these recommendations effect in the Rules.

A.1 Background

A.1.1 Efficient planning and investment

The current framework for the regulation of DNSPs in the NER is designed to encourage these businesses to make efficient planning, investment and expenditure decisions. It uses obligations and incentives to encourage DNSPs to generate outcomes that consumers need, want and are willing to pay for, and to do so efficiently and in line with jurisdictional reliability standards.

Broadly, the promotion of efficient planning, investment and expenditure relate to two areas of the regulatory framework for DNSPs: the planning and investment framework; and the incentive regulation framework. Among other things, these frameworks encourage the consideration of non-network options, provide information to businesses that may offer non-network solutions, and provide distribution businesses with incentives to invest in least-cost options. An overview of these frameworks is provided in Box 5 below.

BOX 5: **EFFICIENT PLANNING, INVESTMENT AND EXPENDITURE DECISIONS**

Planning and investment framework

Included in Chapter 5 of the NER, the distribution network connection, planning and expansion framework is designed to encourage distribution businesses and network users to make efficient planning and investment decisions.

It does so by creating obligations on, and a framework within which, distribution businesses can explore non-network options as alternatives to network investment. The key components of this framework include the following:

- **Distribution annual planning review and report.** DNSPs are required to analyse the future operation of their networks over a minimum forward planning period of five years.

The outcomes of this review are published annually in a distribution annual planning report (DAPR). DNSPs are required to report on all distribution assets, and activities undertaken by DNSPs, that would be expected to have a material impact on the distribution network over the forward planning period.

- **Demand side engagement obligations.** DNSPs are required to develop a strategy (demand side engagement strategy) for how they intend to consider non-network options and engage with non-network providers. This strategy must be documented in a report (demand side engagement document) which includes certain information specified in the rules, and which must be reviewed and published every three years. DNSPs are also required to establish and maintain a register of parties interested in being notified of developments related to DNSP planning and expansion activities.
- **Regulatory investment test for distribution (RIT-D).** The RIT-D aims to promote efficient investment in distribution networks by supporting DNSPs to make consistent, transparent and predictable decisions. DNSPs must apply the RIT-D, subject to certain criteria and processes, before investment decisions are made. In applying the test, DNSPs must consider all credible options (which may include both network and non-network options) when choosing how to address an identified need for investment in the network. The preferred option is the one which maximises the economic benefit to all those who produce, consume and transport electricity in the NEM.

Incentive regulation framework

Set out in Chapter 6 of the NER, the incentive regulation framework is designed to encourage distribution businesses to spend efficiently and to share the benefits of efficiency gains with consumers.

Specifically, it is designed to encourage distribution businesses to make efficient decisions on when to invest, what type of investment (network or non-network investment) to make and what type of expenditure (capital or operating expenditure) to incur in order to meet their network reliability, safety, security and quality requirements.

It does so by seeking to align the incentives (or savings) between capital and operating expenditure, and between network and non-network investment. These incentives are important in relation to DNSP SAPS, as the majority of SAPS expenditure would be expected to be funded through DNSP operating expenditure.

The key incentive schemes include the efficiency benefit sharing scheme (EBSS), and the capital expenditure sharing scheme (CESS) and associated ex-post review mechanism for capital expenditure.

With respect to SAPS, the objective of the regulatory framework should be to achieve an outcome whereby DNSPs pursue and develop SAPS where these provide a more efficient model of supply for a customer (or group of customers) than continuing to provide them with standard supply via the grid (which requires maintaining, and at some point replacing, the distribution network).

A.1.2 Customer choice

Customers being considered for transition to DNSP SAPS supply are not choosing to move off-grid for their own reasons. Rather, they are customers identified by a DNSP as those who could be more efficiently supplied via SAPS for the benefit of all customers.

Currently for a customer, the risk profile of receiving supply via a SAPS is quite different from that of grid supply, not least because of the differences that currently exist between the energy-specific consumer protections available to grid-connected customers and SAPS customers. Therefore, in the absence of a consumer protections framework applicable to SAPS, it may not necessarily be in the long term interests of all customers to move certain customers off-grid.

There are several approaches to protecting the long-term interests of customers identified by DNSPs for transition to a SAPS model of supply. These include requiring DNSPs to gain customers' consent to transition to a SAPS and prescribing minimum customer outcomes in lieu of consent provisions. Alternatively, the regulatory framework for SAPS could be designed to ensure that the energy-specific consumer protections afforded to SAPS customers are the same as those afforded to grid-connected customers.

A.2 Commission's recommended position in SAPS - priority 1 final report

In the SAPS priority 1 final report, the Commission noted that the existing distribution planning and investment framework – which includes the DAPR, demand side engagement obligations and the RIT-D – is largely appropriate and fit-for-purpose to encourage DNSPs to make efficient planning and investment decisions in respect of SAPS.[104] However, the Commission recommended supplementing existing planning arrangements with a number of additions to the DAPR reporting requirements to increase transparency around SAPS opportunities.

In addition, the Commission recommended introducing a new set of SAPS customer engagement obligations which would require DNSPs to develop and publish a SAPS customer engagement strategy, and to provide formal, public notice to affected parties of the intent to proceed with a SAPS supply solution. This section provides an overview of the Commission's recommendations.

A.2.1 Efficiency precondition

In the priority 1 final report, the Commission proposed two changes to the existing planning arrangements to increase transparency around both the opportunities for, and decisions made in respect of, DNSP SAPS.[105] These recommendations, discussed below, were underpinned by the position that DNSPs should only seek to transition an existing grid-connected customer to a SAPS where it has identified a SAPS solution as being the most efficient means of continuing to supply that customer.

104 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 33.
105 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 42.

Additional DAPR reporting requirement

In the final report, the Commission considered the extent to which DAPR reporting requirements around system limitations on the distribution network, set out in schedule 5.8 of the NER, were sufficient to capture activities related specifically to SAPS.[106] The Commission subsequently recommended the inclusion of a number of additional reporting requirements in schedule 5.8 to ensure the provision of sufficiently detailed and timely information on current and future opportunities for SAPS.

The Commission noted that the inclusion of SAPS specific information within DNSPs' DAPRs would enable SAPS proponents to identify potential opportunities for SAPS over the forward planning period. It proposed that this would support the submission of credible alternatives to traditional network investment by SAPS proponents to DNSPs.

The Commission noted its intention to consider further the details of the proposed DAPR reporting requirements during the rule drafting phase of the review.

Minor amendments to the RIT-D to require quantification of market benefits

The Commission also recommended that the NER provisions in respect of the RIT-D (specifically, the RIT-D principles) be amended to mandate the quantification of applicable classes of market benefit specified in the rules (and any additional classes of market benefit specified by the AER) where these may be material or where the quantification of market benefits may alter the selection of the preferred option, rather than leaving quantification optional in these circumstances.[107] The Commission considered this change would support the RIT-D in being applied in a predictable, transparent and consistent manner by DNSPs.

The Commission also noted that the recommended amendment to the RIT-D principles would apply to all projects subject to the RIT-D and would not be limited to those projects for which a SAPS solution is a credible option.

In addition, the Commission considered it would be appropriate for the AER to determine, through its RIT-D application guidelines review process, whether it was necessary and appropriate for the RIT-D application guidelines to include guidance and worked examples on the application of the RIT-D to SAPS options. The Commission recommended that other matters relevant to the RIT-D and associated consultation process be considered further during the rule drafting process, including any definitional changes made to the NER to support services provided by means of SAPS assets to be distribution services.

A.2.2 Customer consent and engagement

SAPS customer engagement obligations

In the final report, the Commission recommended requiring a DNSP to carry out a comprehensive program of information provision and consumer engagement where it has

106 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 43.
107 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 44.

identified SAPS supply as being the most efficient means of continuing to supply a customer (or group of customers) with energy, regardless of whether a RIT-D is also required.[108]

Specifically, the Commission recommended imposing two specific obligations on DNSPs.

First, DNSPs should be required to develop a SAPS customer engagement strategy setting out how the DNSP intends to engage and consult with affected parties. The Commission noted that these obligations would support DNSPs in providing, and affected parties in accessing, information on how, when and with whom a DNSP will engage during the planning, development and operational stages of a SAPS project.

Second, DNSPs should be required to provide formal, public notice to affected parties of the intent to proceed with a SAPS solution. The Commission considered the inclusion of these requirements would support DNSPs in making sure that relevant information on SAPS projects is made accessible to all parties who may be affected by a decision to transition a customer(s) to SAPS supply.

A.3 Commission's analysis and draft position

The Commission's proposed draft rules largely reflect the final recommendations made in the SAPS priority 1 final report. The key aspects of the proposed draft rules will require DNSPs to:

- include additional information in their DAPRs to report specifically on DNSP-led SAPS projects
- revise their demand-side engagement strategies (including demand-side engagement documents) to include consideration of SAPS. The term "demand-side engagement" has been replaced with the term "industry engagement" to reflect the extended scope
- develop a SAPS customer engagement strategy and guideline for engaging with affected network users in relation to SAPS being considered by the DNSP in relation to its network
- quantify all classes of market benefits which are considered to be material or may alter the selection of the preferred option.

A.3.1 Obligation for DNSPs to report on DNSP-led SAPS projects

The Commission continues to consider that requiring DNSPs to provide specific information in their DAPRs in respect of their SAPS projects will provide a transparent and consistent approach to identifying current and future opportunities to supply customers by means of SAPS.

This additional information, to be reported at a high level only, is intended to provide important context to DNSPs' planning processes and activities and is a record of past decisions and projects. This additional information is also intended to support SAPS proponents interested in proposing or tendering to provide SAPS solutions, to identify potential SAPS opportunities over the forward planning period.

108 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 46.

Consistent with the Commission's recommendation in the SAPS priority 1 final report that the DAPR reporting requirements specified in schedule 5.8 of the NER be amended and clarified to include a number of items specific to SAPS, the proposed draft rules would require DNSPs to report on:[109]

- information on system limitations in the forward planning period for which a potential solution is a regulated SAPS, including estimates of location, timing and potential type of SAPS solution that may address the system limitation
- opportunities to develop DNSP-led SAPS projects that have been considered in the last year
- committed projects to implement a regulated SAPS over the forward planning period, and
- total numbers of SAPS implemented and customer premises transitioned to SAPS supply.

The purpose of these requirements is to ensure that proponents of SAPS will receive sufficiently detailed and timely information on current and future opportunities for SAPS. In addition, high level reporting on committed SAPS projects and SAPS options will allow the outcomes of the new regulatory framework for SAPS to be captured in a central location. In doing so, it will also assist the AER in its distribution determination process by reducing information asymmetries between the AER and DNSPs.

A.3.2 Obligation on DNSPs to revise their demand-side engagement strategies and documents

The Commission considers it is appropriate to extend DNSP's existing demand-side engagement obligations to incorporate the broader range of alternative investment options to traditional network investment, including stand-alone power system solutions. The proponents of SAPS solutions, like the proponents of non-network options, will require transparency around the process and procedures that DNSPs will follow when engaging with SAPS proponents and assessing SAPS solutions as alternatives to network investment.

Further, the inclusion of SAPS within the scope of the demand-side engagement obligations will ensure that DNSPs engage with SAPS proponents, and consider SAPS solutions, in a manner consistent with non-network proponents/options.

The draft proposed rule therefore:

- extends the existing demand-side engagement obligations to include SAPS options[110]
- includes a requirement for DNSPs to revise their existing demand-side engagement strategies and demand-side engagement documents to capture DNSP-led SAPS projects[111], and
- replaces the term "demand-side engagement" with the new term "industry engagement" to reflect the extended scope of the demand-side engagement provisions and avoid confusion with the customer engagement provisions.[112]

109 Proposed draft NER clauses S5.8 (d1) and (o).
110 Proposed draft NER clauses 5.13.1(e)-(j).
111 Proposed draft NER clause 5.13.1(e)-(j).
112 Proposed draft NER rules 5.10, 5.13, 5.14 and 5.17 and schedule 5.9.

A.3.3 Obligation for DNSPs to develop SAPS customer engagement strategy and guideline

Consistent with the recommendations in the SAPS priority 1 final report, the Commission's draft proposed rule requires a DNSP to develop a strategy and guideline for engaging with affected network users in relation to SAPS projects being considered by the DNSP. [113] The SAPS customer engagement strategy and guideline is intended to ensure effective and timely engagement between DNSPs and affected parties.

The Commission considers that imposing obligations on DNSPs to engage affected parties (including potential SAPS customers and the local public) is appropriate to meet expected customer engagement outcomes. As such, the Commission's draft proposed rule requires DNSPs to develop a SAPS customer engagement document that sets out its SAPS customer engagement strategy.[114] These obligations would support DNSPs in engaging with affected parties throughout the planning, development and operational stage of a SAPS project.

In developing and amending the SAPS customer engagement document, DNSP will be required to have regard to the SAPS customer engagement objectives. The SAPS customer engagement objectives are:[115]

- providing relevant and timely information about DNSP-led SAPS projects[116] and SAPS customer engagement strategies and processes; and
- engaging in timely and effective communications and other engagement with affected network users and landowners during the planning, development, construction and commissioning of a DNSP-led SAPS project.

The Commission's draft proposed rule also proposes that the AER may develop and publish guidelines about engaging with affected network users in relation to DNSPs' SAPS projects.[117] These guidelines are intended to provide general guidance on the form and content of SAPS customer engagement documents and other matters the AER considers appropriate to promote the SAPS customer engagement objectives.

In addition, the Commission continues to consider that providing affected customers with appropriate notice and opportunity for consultation on a proposal to convert part of a DNSP's network to a regulated SAPS is an essential step in meeting customer engagement obligations. On this basis, the Commission's inclusion of a formal consultation process in the NER is intended to ensure that relevant information on SAPS projects is made accessible to all parties who may be affected by a decision to transition a customer to SAPS supply.[118]

A.3.4 Requirements for DNSPs to quantify all classes of market benefits

The Commission continues to consider that the RIT-D principles set out in the NER should be changed to make it clear that DNSPs must (rather than may) quantify all classes of market

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113 AEMC, *Review of regulatory frameworks for stand-alone power system - priority 1,* Final report, 30 May 2019, p. 47.

114 Proposed draft NER clause 5.13.4.

115 Proposed draft NER clause 5.10.2.

116 This term is proposed to be defined in NER chapter 10 to include planning, developing, constructing and commissioning a SAPS, undertaken by a DNSP to address system limitations. It does not cover the ongoing operation of a DNSP SAPS.

117 Proposed draft NER clauses 5.13.4 (f)-(h).

118 Proposed draft NER clauses 5.13.4 (i) to (n).

benefits applicable to a credible option, where these may be material or likely to alter the selection of the preferred option. This would be effected through replacing the term "may" in NER clause 5.17.1(d) with the term "must".[119]

As noted in the SAPS priority 1 final report,[120] the quantification of market benefits is becoming increasingly important as the characteristics of traditional distribution investments have evolved. DNSPs are increasingly able to utilise the benefits of new technologies such as SAPS to meet their regulatory obligations towards facilitating the supply of electricity for customers. As such, the Commission is of the view that this change will support DNSPs applying the RIT-D in a predictable, transparent and consistent manner.

The Commission notes that the recommended amendment to the RIT-D principles would apply to all projects subject to the RIT-D and would not be limited to those projects for which a SAPS solution is a credible option.

In addition, the Commission considers that were appropriate, the AER must review and where necessary amend and publish the RIT-D application guidelines.[121]

The extended scope of the distribution planning arrangements explained above (excluding the proposed RIT-D amendment) will only apply in relation to networks located in a participating jurisdiction that has opted in to the DNSP-led SAPS arrangements under the NEL.[122]

Definition changes to support services provided by means of SAPS

To support services provided by means of SAPS assets to be distribution services, the Commission proposes to replace the term 'non-network option report' with the 'options screening report' in the local definitions in NER clause 5.10.2. This is on the basis that the RIT-D process will apply to a proposed regulated SAPS solution, and so the use of the term 'non-network' is no longer appropriate. The Commission considers that this amendment will support the process for assessing the efficiency of SAPS options.

119 Proposed draft NER clause 5.17.1 (d).

120 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, p. 45.

121 Proposed draft NER clause 11.X.3(A)(1).

122 The jurisdictional opt-in arrangements may allow for partial opt-in, in relation to specific networks or network areas within a jurisdiction. The proposed drafting, including the term "adoptive SAPS network" (defined in clause 5.10.2), is intended to be sufficiently flexible to accommodate partial opt-in.

B NEW CONNECTIONS AND RECONNECTION

This appendix outlines the proposed framework for connection to a regulated SAPS. Specifically, this appendix explores the application of Chapters 5 and 5A of the NER in respect of connection to a SAPS and, subsequently:

- the treatment of new connections, including the initial connection of a SAPS generator to a SAPS distribution system to enable the transition of an existing customer from grid-supply to SAPS supply and the connection of a third party to an existing SAPS, and
- the treatment of reconnection and augmentation in regard to SAPS systems.

The appendix sets out the Commission's proposed approach for addressing these issues in the Rules.

B.1 Background

Customers are currently able to establish their own individual power systems at a new property as an alternative to paying for a connection to the grid. They are also able to disconnect from the interconnected grid and to arrange their own power supply (with some restrictions).

Most customers who are currently grid-connected do not face price incentives to move to off-grid supply where it would be efficient for the grid as a whole for them to do so. Current grid-connected customers in remote areas are only likely to move to off-grid supply if it is no more expensive than their current tariff. The tariffs paid by most grid-connected remote customers do not reflect the high costs of supplying those specific customers. Instead, tariffs tend to reflect the average cost of supplying power to all customers in the DNSP's area.

Given existing tariff structures and cross-subsidies, remote grid-connected customers are unlikely to choose to move to off-grid supply provided by a competitive provider, even when there would be economic benefits for consumers overall. For this reason, it would be efficient to allow DNSPs to facilitate the provision of SAPS for currently connected customers as a regulated service where competition is not practicable and off-grid supply would be cheaper than maintaining a grid connection.

Conversely, new customers without a grid connection are likely to have a financial incentive to obtain off-grid supply from the competitive market where the cost of establishing a grid connection (which could be quite costly for remote customers) is more expensive than obtaining off-grid supply.

New customers, and customers who have previously chosen to disconnect from the interconnected grid, can request a DNSP to provide an offer to connect the customer to the DNSP's local network.[123] Although the DNSP is required to provide an offer to connect, the customer is required to pay the full costs of extending the network to connect to their premises, and some portion of any costs required to augment the shared network, if applicable. If a customer connection contract (including connection costs) is agreed, under

123 NER chapter 5A.

the NERL the DNSP is then required to provide connection services in accordance with the relevant contract.[124]

Customers who have chosen to disconnect from the interconnected grid currently have the same rights as any customer wishing to connect to the grid, should they wish to reconnect to the grid. However, the purpose of developing a national framework for SAPS facilitated by DNSPs is to capture the efficiency benefits associated with supplying a customer, or group of customers, via a SAPS rather than continuing to supply those customers via the interconnected grid. The establishment of a SAPS is therefore based on an assumption that the existing assets connecting those customers to the grid will be either taken out of service or removed completely.

B.2 Commission's recommended position in SAPS - priority 1 final report

In the SAPS priority 1 final report, the Commission considered whether DNSPs should be permitted to provide new connections via SAPS, and whether customers who have been transitioned by a DNSP to a SAPS should be allowed to reconnect to the interconnected grid. The Commission made a number of recommendations in this regard. These included:

- new customer connections to new SAPS should be provided by the competitive market, rather than by DNSPs. A DNSP's ring-fenced affiliate would be able to provide SAPS to new customers, at cost reflective pricing
- DNSPs should be allowed to provide an offer to connect a new customer to an existing DNSP-led SAPS, where the connection to the DNSP-led SAPS would be more efficient than connecting to the interconnected grid
- DNSPs' current connection policies, including cost allocation and capital contribution policies, can be extended to DNSP led-SAPS
- SAPS customers should have no special right of reconnection to the interconnected grid once transitioned to a SAPS by a DNSP.

These recommendations are consistent with the Commission's proposal that DNSP-led SAPS should be considered to be part of a DNSP's network. Customers supplied via DNSP-led SAPS would therefore be considered as being connected to the DNSP's distribution network.

B.3 Commission's analysis and draft position

The Commission's draft proposed rule largely reflect the final recommendations made in the SAPS priority 1 final report.[125] The Commission's approach to giving these recommendations effect through the NER is discussed in further detail below.

124 NERL s. 66.

125 AEMC, *Review of regulatory frameworks for stand-alone power systems*, Final report, 30 May 2019.

B.3.1 Suitability of Chapters 5 and 5A of the NER

There are currently two frameworks in the NER applicable to the connection of customers and generators in the NEM:

- Chapter 5 of the NER is intended principally to apply to connections by Registered Participants to the interconnected network. In addition to a connection process for load and generation connected at the transmission level, Chapter 5 includes a process for the connection of embedded generation (that is, generation connected at the distribution level) with systems greater than 5MW - that is, greater than the standing exemption from the requirement to register as a participant with AEMO. Importantly, the Chapter 5 connection process also includes processes and technical requirements directed at system security issues.
- Chapter 5A of the NER, in contrast, principally covers matters associated with new connections and connection alterations for retail electricity customers (end users and real estate developers). It also covers connection requirements and obligations for DNSPs and for embedded generation with systems less than 5MW - that is, embedded generators that are both micro (small) embedded generators (such as residential roof-top solar PV systems) and non-registered embedded generators operating in the NEM.

Having considered both frameworks in detail, the Commission considers that Chapter 5 of the NER does not provide a suitable framework for connection of a facility to a SAPS. As noted above, the Chapter 5 connection process is intended principally for connections by Registered Participants to the interconnected network and includes processes and technical requirements directed at system security issues, neither of which are relevant in the context of SAPS (see appendix C for further discussion on the application of the Chapter 5 technical standards to SAPS).

Given that the facilities within a SAPS will be connected to a distribution network and, more often than not, will be less than 5MW, it is the Commission's view that Chapter 5A provides an appropriate framework to apply to the connection of load and generation within a DNSP-led SAPS.

In respect of the initial connection of a SAPS generator to a SAPS distribution system by a DNSP, the process set out in Chapter 5A of the NER is proposed to provide the framework to enable this connection. As part of this connection process, a connection agreement and service agreement will be established between the DNSP and the registered participant in respect of the generating plant. It is important to note that the proposed approach will avoid the need for the 'application to connect' process set out under Chapter 5 to be followed. It will mean that the connection will not be governed by the technical requirements in Chapter 5 (nor will it be subject to the provisions on power system security in NER Chapter 4).

In respect of the connection by a third party - that is, a third-party generator or customer - to an established SAPS, the Commission also considers that the Chapter 5A connection process is the appropriate framework to apply. Where a registered generator or market customer seeks to connect to a DNSP-led SAPS, the DNSP must "make reasonable endeavours to make a connection offer that complies with the connection applicant's

reasonable requirements".[126] There may be valid reasons why a participant's connection application to a DNSP SAPS may require negotiation, such as a lack of capacity or site characteristics. The Commission considers this is a necessary condition to allow DNSPs to appropriately manage the operation of SAPS systems, particularly in relation to the connection of generation or load above the standing exemption threshold of 5MW.[127] This does not prevent a DNSP agreeing to connect a registered generator or market customer if it considers it appropriate to do so, but provides a pathway to negotiate these connection applications on an informed basis.

In addition to the proposed approach to connection for SAPS, a number of clarifications and consequential changes have been proposed in Chapters 5 and 5A of the NER. These are summarised in Appendix D.

B.3.2 New connections

The Commission remains of the view that new connections via new SAPS should be provided by the competitive market and not via DNSP-led SAPS. Therefore, the Commission's draft proposed rule does not permit a DNSP to establish a new connection to its network by converting part of its network to a SAPS or establishing a new regulated SAPS.[128] This rule is intended to ensure that where price incentives exist for a customer to procure a SAPS rather than connect to the interconnected grid, the SAPS should be supplied by the competitive market. This is on the basis that cross and direct subsidies would be exacerbated if DNSPs are allowed to provide new connections via new SAPS. The Commission's proposed draft rule means that new customers connecting to a new SAPS will be unable to access cross or direct subsidies arising from DNSP supply.

However, the Commission continues to consider it appropriate to allow a ring-fenced DNSP affiliate to offer SAPS to new connections. Customers supplied by a ring-fenced DNSP affiliate would not be able to access cross subsidies.[129] However, the requirements relating to separate offices and separate staff for services supplied by ring-fenced affiliates may be waived under the regional office exemption. The AER may also waive those requirements on other grounds, on application from the DNSP.[130] Given these existing provisions, the Commission does not consider that an additional automatic exemption for the provision of SAPS in specific rural areas is warranted.

New connection to existing DNSP-led SAPS

The Commission continues to consider that DNSPs should be allowed to offer to connect new customers to existing DNSP-led SAPS where it is more economically efficient than connecting to the interconnected grid. As such, the requirements relating to connection charges under chapter 5A, Part E, of the NER will continue to apply to customers connecting to existing

126 NER clause 5A.C.3(a)(6).

127 This exemption threshold is set out in AEMO's Guide to generator exemptions and classification of generating units, November 2018, p.7.

128 Draft proposed NER clause 5A.A.4.

129 See section 3 of the AER's *Ring-fencing Guideline - Electricity Distribution*, v.2 October 2017 (Ring-fencing guideline). No waivers can be granted for the requirements regarding separate accounts and cost allocation.

130 Ring-fencing guideline, sections 4.2.1 (b)(iii), 4.2.2(b)(iii), 5.

DNSP-led SAPS. The application of these requirements is intended to provide DNSPs with the ability to connect new customers (those that did not previously have a connection to the interconnected grid or a DNSP SAPS) to an existing DNSP SAPS where it is more economically efficient than connecting to the interconnected grid. This is appropriate as the existing DNSP SAPS, provided to customers when transitioning from the interconnected grid, replaces that part of the DNSP's distribution network.

In cases where a new connection is made to an existing DNSP SAPS, the Commission continues to consider that connection and augmentation costs should be allocated in the same way as for new connections to the interconnected grid.[131] This is on the basis that doing so will address issues associated with the allocation of costs to facilitate the connection of new customers to existing DNSP SAPS and with increases in the loads of existing DNSP-led SAPS customers.

However, consistent with the existing approach to the reallocation of charges, the Commission proposes to treat Market Participants and Intending Participants in the same group as real estate developers under NER clause 5A.E.1. This would mean that these participants would be liable for charges in the same way as real estate developer.

Consistent with chapter 5A, Part E, of the NER, the costs of the connection from the existing DNSP SAPS to the new connection point would be payable by the customers, and any cost to augment the SAPS to facilitate the new connection would be apportioned in the same way between the customer and DNSP as for connection to the interconnected grid. DNSPs are required to develop their connection policies for approval by the AER.[132] The connection policies set out the circumstances in which connection charges are payable and the basis for determining the amount of these charges. The Commission is of the view that the existing connection charge guideline is fit-for-pupose with regard of allocating DNSP SAPS connection and augmentation costs.[133]

B.3.3 Augmentation of a DNSP SAPS

As noted above, certain circumstances may arise that result in the need to augment an existing SAPS in order to increase its capacity. The Commission remains of the view that it is reasonable for DNSPs to apply their connection policies to SAPS in the same manner as they would for grid-connected customers. This would mean that if a customer who is supplied by a DNSP-led SAPS increases their load to a level that requires the capacity of the SAPS to be augmented, but remains below the capital contribution threshold, the DNSP would be required to increase the capacity of the SAPS at no additional cost to the customer. Conversely, if the customer increases their load above the applicable threshold, the customer will be required to make a capital contribution for any capacity above that threshold, in line with the DNSP's existing connection policy.

131 The AER's connection charge guideline codifies how electricity distributors should charge new electricity customers for connecting to their networks. A requirement on AER to review and update this guideline has been included as a transitional measure in NER clause 11(X)3.

132 NER rule 6.7A; AER, Connection charge guideline, 2012.

133 A requirement on AER to review and update this guideline has been included as a transitional measure in NER clause 11(X)3 discussed in Chapter 6 of this report.

B.3.4 Reconnection

Consistent with the SAPS priority 1 recommendation, the Commission considers that customers who have transitioned to a DNSP-led SAPS should have no special right of reconnection.[134] The Commission considers this would be appropriate as the DNSP-led SAPS will be subject to the same consumer protections, safety, technical and reliability standards as the interconnected network. In addition, the Commission considers there is no need for revised reconnection policies as the redefinition of DNSP-led SAPS as part of a DNSP's network would mean a customer who is supplied electricity from a DNSP-led SAPS would not be classified as disconnected from the DNSP's network.

134 AEMC, *Review of regulatory frameworks for stand-alone power systems*, Final report, 30 May 2019, p. 56.

C APPLICATION OF CONSUMER PROTECTIONS

This appendix explores a number of considerations related to the application of consumer protections to DNSP-led SAPS, including:

- the application of national energy-specific consumer protections for customers supplied via DNSP-led SAPS
- the application of SAPS-specific consumer protections, including additional information provision obligations on DNSPs
- the application of jurisdictional consumer protections and reliability considerations.

The final point above includes discussion around the various jurisdictional, and national, technical regulations and performance standards applicable to network businesses in the NEM and their suitability in the context of DNSP-led SAPS.

In addition, the appendix sets out the Commission's recommended approach for addressing each of these issues in the Rules or relevant jurisdictional frameworks and instruments.

C.1 National energy specific consumer protections

C.1.1 Background

Under the national electricity regulatory framework, there are a number of energy-specific consumer protections for grid-connected customers. National energy-specific consumer protections are found primarily in the National Energy Customer Framework (NECF), the main legal instruments of which are the National Energy Retail Law (NERL) and the National Energy Retail Rules (NERR). The NECF:[135]

- establishes the consumer protections and obligations regarding the sale and supply of electricity and natural gas to consumers, with a particular focus on residential and other small customers
- defines the rights, obligations and protections relating to the relationship between customers, energy retailers and energy distributors, and
- complements and operates alongside the generic consumer protections in the Australian Consumer Law and state and territory safety and concession regimes.

Currently, consumer protections under the NECF do not generally apply to customers receiving supply from a SAPS, except for microgrids in Queensland and, potentially, the ACT.[136] Consumers in NSW, Tasmania and South Australia who move off-grid would lose their energy-specific consumer protections under the NECF.[137] No consumers in Victoria are

135 The NECF currently applies, with jurisdictional specific amendments, in Queensland, New South Wales, South Australia, Tasmania and the Australian Capital Territory. The NERL and NERR do not apply in Victoria or the Northern Territory.

136 The Acts adopting the NERL in Queensland and in the ACT do not limit the application of the NECF to the sale of electricity to customers connected to the interconnected national grid. If the seller of electricity in a microgrid in those jurisdictions is not exempt, it would need to be an authorised retailer and it would be subject to the full provisions of the NECF.

137 The Acts adopting the NERL in each of these jurisdictions specify that the NERL applies only in relation to the sale of electricity to customers connected to the interconnected national grid. *National Energy Retail Law (South Australia) Act* 2011 (SA) s. 16; *National Energy Retail Law (Adoption) Act* 2012 (NSW) Schedule 1, s. 11 and National Energy Retail Law (NSW) No.37a, s. 3A; *National Energy Retail Law (Tasmania) Act* 2012 (Tas) s. 17.

covered by the NECF, however, they would likely be covered by protections under the Victorian Energy Retail Code, as they will be supplied by a licensed retailer. The Energy Retail Code applies protections to Victorian consumers similar to many of those in the NECF.

Many of the energy-specific consumer protections under NECF are likely to remain valuable for customers receiving supply via a SAPS. For DNSP-led SAPS, it is reasonable for a consumer to expect energy-specific consumer protections equivalent to those they would have received under standard grid supply. For example, customers receiving supply via a DNSP-led SAPS should be entitled to requirements regarding accurate metering and regular billing that are equivalent to the requirements for grid-supplied customers.

C.1.2 Commission's recommended position in SAPS - priority 1 final report

In the SAPS priority 1 final report, the Commission considered that consumer protections for DNSP-led SAPS should be equivalent to those under standard supply arrangements.[138] The model of supply recommended in the final report preserves (as much as possible) access to retail competition, and the customer will continue to be supplied by a licensed DNSP and an authorised retailer, each subject to the full range of obligations under the NECF.[139]

In addition, the Commission also considered a need for any energy-specific consumer protections specific to customers receiving supply via a SAPS.

Application of NECF to SAPS customers in each jurisdiction

As noted in the final report, the Commission considered that the full suite of consumer protections under the NERL and the NERR should be extended to customers being supplied via a DNSP-led SAPS. The Commission noted that in order to apply the NECF to customers in SAPS in these jurisdictions, amendments to the legislation applying the NERL in NSW, South Australia and Tasmania would be required.[140]

In Victoria, the Commission suggested that SAPS customers supplied by a licensed retailer would be covered by protections under the Victorian Energy Retail Code.

SAPS-specific consumer protections

In the final report, the Commission considered that amendments to the national consumer protections in the NERR would be required to incorporate additional information provision obligations on DNSPs, both prior to transitioning a customer to a SAPS, and once the customer has transitioned to a SAPS model of supply.[141] The purpose would be to help customers understand the reality of supply under a SAPS. The Commission recommended that the following SAPS specific consumer protections be added to the national consumer protections:

- information provision obligations incorporated in consultation requirements where the DNSP is considering transitioning the customer to a SAPS, covering quality of supply and

138 AEMC, *Review of the regulatory framework for stand-alone power systems* - priority 1, Final report, p. 88.
139 The model of supply developed in chapter 3 of this report also preserves this link to the full range of obligations under the NECF.
140 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, pp. 88-89.
141 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, pp. 89-90.

performance standards, safety issues, communication functions, interactions with the customer's other assets, customers rights and obligations, and arrangements for placement of the SAPS.[142]

- information provision obligations when a customer transitions to a SAPS, or moves into a premises supplied by a DNSP-led SAPS, covering issues such as system redundancy, performance standards under different conditions, outages and customer interactions with the SAPS, any capacity restrictions, customers rights and obligations, including where system augmentation is required, among other issues.

The Commission noted that the specific information provision obligations, including the issues that must be covered as a minimum, will be consulted on further at the rule development stage.

C.1.3 Commission's analysis and draft position

The Commission's draft position largely reflects the recommendation in the SAPS priority 1 final report.[143] However, some minor changes have been made, which are discussed in further detail below.

The Commission's view on the application of the NECF to SAPS customers remains the same. That is, the Commission continues to consider that the full suite of consumer protections under the NERL and the NERR should be extended to customers being supplied via a DNSP-led SAPS. In order to apply the NECF to customers in SAPS in these jurisdictions, amendments to the legislation applying the NERL in NSW, South Australia and Tasmania is required.

In extending the application of consumer protections under the NERR, the Commission proposes that transition to a SAPS should not be treated as a disconnection, and as such should not be subject to various restrictions on disconnection that apply under the NERR. The Commission, therefore, proposes to specify that the temporary unavailability or temporary curtailment of the supply of energy to a customer's premises to implement a regulated SAPS conversion is an interruption for the purpose of the Rules and the Law (and not a de-energisation or disconnection).[144] In addition, the definition of distributor planned interruption will be extended to include an interruption for conversion to a regulated SAPS.[145]

The Commission also continues to support recommendations around the provision of information by DNSPs to prospective and transitioned SAPS customers. Where a DNSP is considering transitioning an existing grid-connected customer to a SAPS, the Commission considers the proposed SAPS consumer engagement provisions (discussed in appendix A) are adequate to support sufficient information provision to prospective SAPS customers.[146]

142 The Commission's recommendations on developing SAPS customer information and engagement requirements are in appendix A.

143 AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1,* Final report, 30 May 2019, pp. 84-101.

144 Proposed draft definitional change under NERR clause 3.

145 Proposed draft definitional change under NERR clause 88.

146 Further detail regarding these customer obligation requirements is provided in appendix A and set out in the proposed draft NER clause 5.13.4.

In relation to information provided by a DNSP to customers already transitioned to a SAPS, or who move into premises supplied by a SAPS, the Commission also considers that the proposed SAPS customer engagement provisions are likely to be the appropriate mechanism to support the provision of necessary and appropriate information to these customers in respect of their energy supply. As discussed in appendix A, the Commission has provided the AER with the option to develop a SAPS customer engagement guideline.[147] This guideline is intended to provide general guidance on the form and content of DNSPs' SAPS customer engagement documents, and other matters the AER considers appropriate to promote the SAPS customer engagement objectives. In developing this guideline, the draft proposed rule contemplates that the AER may provide guidance on information provision obligations when a customer transitions to, or moves into premises supplied by, a DNSP SAPS.[148]

C.2 Jurisdictional consumer protection and reliability considerations

C.2.1 Background

Under the Australian Energy Market Agreement (AEMA), state and territory functions include distributor technical and safety requirements, small customer dispute resolution, service reliability standards and the determination of distribution and retail service areas.[149] The jurisdictional consumer protections and safety regulations that should be analysed to determine if they should be applied to DNSP-led SAPS include:

- retail price protections
- access to state and territory concessions and rebates
- access to independent dispute resolution for both distribution and retail services
- safety requirements and monitoring regimes
- other guaranteed service level (GSL) payments
- technical regulation such as equipment and performance standards, and
- reliability.

Each of these consumer protections is discussed below.

Retail price protections

Under the AEMA, jurisdictions may utilise retail energy price controls where competition is "not yet effective for a market, group of users or a region".[150] Retail energy price controls can be transferred to the AER and the AEMC at the discretion of each jurisdiction.[151] For example, the AER's retail exempt selling guideline, applicable to exempt sellers, contains a pricing condition. In Tasmania, the ACT, the Northern Territory and for Ergon Energy's distribution network area in Queensland, jurisdictional regulators have set regulated retail prices for grid-connected customers.[152] In Victoria, prices were re-regulated by the Essential Services

147 Proposed draft NER clauses 5.13.4 (f) and (g).
148 Proposed draft NER clause 5.13.4 (h)(3).
149 COAG, Australian Energy Market Agreement, Annexure 2.
150 COAG, Australian Energy Market Agreement, s. 14.15.
151 COAG, Australian Energy Market Agreement, s. 14.15(b).
152 In the ACT, the Independent Competition and Regulatory Commission sets regulated prices for ActewAGL's retail regulated tariffs.

Commission under the Victorian Default Offer (VDO) which was introduced from 1 July 2019. At Commonwealth level, the Default Market Offer (DMO) was introduced from 1 July 2019 for retailers in states or regions where there is no regulated price for electricity. The DMO is set under the Competition and Consumer (Industry Code - Electricity Retail) Regulations 2019.[153]

Access to state-based energy concessions and rebates

Standard supply residential customers who meet certain conditions may be eligible for state-based electricity concessions and other payment assistance schemes. All residential standard customers are informed of the availability of energy rebates and payment assistance by their NERL authorised retailer,[154] and can contact their retailer to determine if they meet the requirements to receive a concession.

Access to independent dispute resolution

Distributors and retailers are required to be members of any jurisdictional ombudsman schemes.[155] Energy ombudsmen provide independent dispute resolution services for disputes relating to energy. Small customers can access jurisdictional energy ombudsmen to resolve disputes and complaints with their retailer and/or DNSP, with the retailer or DNSP bound by the ombudsman's decision.

Safety of electricity supply

When designing their grid connected networks, DNSPs are required to comply with a range of detailed safety obligations, taking all reasonable steps to make the network safe. Safety obligations vary between jurisdictions, and some jurisdictions impose obligations on DNSPs to implement a safety management system that expressly considers safety of the public, workers, property, the environment, and safety risks arising from a loss of supply. Jurisdictional regulators generally have audit and enforcement powers, and can apply penalties for failure to comply with these requirements.

Ability to access land required for the supply of electricity

Although not a consumer protection, under jurisdictional regulations DNSPs have specific land access rights in order to install and maintain systems to supply grid-connected customers. For example, DNSPs may have rights to occupy public or private land, cross land, or resume land, undertake works, vegetation management and bushfire prevention measures. It is an area that also needs to be considered by jurisdictions in the context of SAPS supply.

Reliability

In the NEM, the reliability that customers experience is a combination of the service provided by generators, transmission networks, and distribution networks.

In Tasmania, the Economic Regulator approves the regulated offer prices offered by Aurora Energy. In the Northern Territory, the Utilities Commission sets the maximum retail prices for small customers through an Electricity Pricing Order. In Queensland, the Queensland Competition Authority determines the regulated retail electricity price for Ergon Energy's standard contract.

153 This instrument is made under the *Competition and Consumer Act 2010.*

154 NERL section 46 and NERR rule 25(1)(s).

155 NERL section 86.

The Reliability Panel sets the reliability standard for generation in the NEM, which currently requires there to be sufficient generation to meet 99.998% of annual demand.[156]

There are three types of reliability standards and service levels that DNSPs are required to aim to meet:

- jurisdictional reliability standards
- GSLs, and
- national reliability targets within economic regulation.

Each state and territory government retains control over how transmission and distribution reliability is regulated, which has resulted in different regulations in each jurisdiction.[157] The levels of reliability that must be provided by distribution (and transmission) networks are generally contained in jurisdictional license conditions or in state codes and regulations. Jurisdictional reliability levels are generally measured by the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI).

Each state and territory also has reliability standards for the average number and duration of unplanned outages that each distribution network should not exceed each year.[158] For each network, these standards are often further split into specific standards for different levels of customer density, geographic areas, or customer types. Most states and territories also have a number of other measures to regulate distribution reliability.

At the national level, the service target performance incentive scheme (STPIS) operates to provide financial incentives to maintain and improve service performance (to the extent that consumers are willing to pay for such improvements) by assigning rewards or penalties to a DNSP where performance is better or worse than the target performance level.[159] The STIPIS comprises four components, which relate to reliability of supply, quality of supply, customer service and GSLs. However, the GSL component only applies where a distributor is not subject to a jurisdictional GSL scheme.

In the context of stand-alone power systems, the reliability of supply of electricity will be determined by the service provided by the stand-alone power system. Irrespective of the source of an interruption to customer supply, the reliability associated with a SAPS system should be considered 'distribution reliability' for regulatory purposes on the basis that any interruptions to SAPS customers would be considered to be primarily within the control of the distribution business.

Other Guaranteed service level (GSL) categories

Under jurisdictional GSL schemes, each jurisdiction has GSLs for different services, with some jurisdictions having many GSLs, and some only a few. In addition to reliability GSLs, some other jurisdictional GSLs include:

156 NER clause 3.9.3C(a).

157 COAG, Australian Energy Market Agreement, Annexure 2.

158 For reliability, there are generally Guaranteed Service Levels (GSLs) for unplanned supply interruptions covering both duration and frequency of interruption.

159 Under Chapter 6 of the NER, the AER is required to develop and publish the STPIS. The AER undertakes consultation with stakeholders on any proposed amendments to the STPIS.

- notice of planned interruption
- timeliness of new connections
- missed scheduled appointments
- timely repair of faulty streetlights
- wrongful disconnection
- time to respond to complaints
- time to respond to notification of a problem, and
- hot water complaints.

Technical regulation such as equipment and performance standards

DNSPs must adhere to a number of technical regulations and design and performance standards when supplying grid-connected customers, and designing their networks. For example, there are design standards relating to overhead lines, underground lines, substations, generators, services and customer installations. In addition, there are power quality obligations relating to voltage range, frequency, and disturbances as well as enforcement regimes to monitor compliance with the obligations. These power quality obligations exist in a variety of regulatory instruments including the NER, jurisdictional Acts, codes and licences (depending on the jurisdiction) and in relevant Australian Standards.

Power quality and other technical standards applicable in the NEM are set out schedules 5.1a to 5.3a in the NER. These define the level of performance required of the equipment that makes up, and is connected to, the interconnected power system. An overview of these technical standards and their relevance to SAPS is provided in Box 6.

BOX 6: NEM TECHNICAL STANDARDS

The NEM technical standards define the level of performance required of the equipment that makes up, and is connected to, the NEM power system. The overall power system is operated to these standards and this allows the power system operator, AEMO, to effectively manage power system security. They are also important tools for managing reliability and safety obligations. Generating units within SAPS are physically separate from the NEM physical networks and, therefore, the reliability and security performance of these generating units has no interaction with NEM security or reliability.

Other aspects of the NER standards are, however, more directly relevant to SAPS - for example, those related to the quality of electricity services that a customer can expect. A number of such standards are set out in Schedule 5.1a of the NER - 'System standards'. These system standards are important as the level of technical performance standards that are provided by distribution networks to SAPS customers have implications for the power quality outcomes received by these customers.

In relation to SAPS, power quality compares an ideal "undisturbed" supply to disturbances that can arise due to network (or SAPS) limitations and/or the characteristic of a customer

load. Power quality needs to be maintained within specified limits as to avoid malfunction of and/or damage to customer equipment.

On the basis that network businesses are responsible for managing localised power quality problems on their networks (for example, ensuring voltage remains within allowed technical limits), network power quality obligations are also imposed on DNSPs through jurisdictional instruments.

In order to manage a customer's impact on network power quality (as well as reliability and safety) a DNSP can impose conditions on entities and individuals connecting to its network through connection agreements.[160] DNSPs also rely to a significant extent on Service and Installation Rules (or similar) established in and by each jurisdiction.[161]

Service and Installation Rules are primarily designed to define and co-ordinate the relationship between a licensed distributor and its grid-connected customers, including the respective parties' obligations in maintaining power quality. These rules provide reasonable technical requirements that allow the customer's installation to work safely and in harmony with the DNSP networks, as well as helping to define the limits of the service that the DNSP is providing to the customer.[162]

DNSPs can also draw from a number of technical design and performance standards set out in or imposed under various jurisdictional instruments when supplying grid-connected customers and designing their networks. For example, there are standards, codes and guidelines covering overhead line clearances and designs, underground cable installations, substation electrical and civil aspects, fire segregation and customer installations.

In addition, there are quality of supply standards relating to voltage range, frequency, and disturbances. For stand-alone power systems, there is an Australian Standard (AS 4509) which sets out safety and installation requirements for SAPS supplying a single load, single residence or building or a group of residences or buildings.[163]

160 For DNSP SAPS, these connection agreements are proposed to be regulated under NER chapter 5A. See Appendix B of this report for further details.

161 State of New South Wales through Division of Energy, Water and Portfolio Strategy, NSW Department of Planning & Environment, Service and Installation Rules of New South Wales - The electricity industry standard of best practice for customer connection services and installations, November 2018; Citipower, Jemena, Powercor, Ausnet, United Energy, Victorian Electricity Distributors Service & Installation Rules 2014; Energex and Ergon Energy, Queensland Electricity Connection Manual - Service and Installation Rules, effective from 24 August 2018; SA Power Networks, Service and Installation Rules - Manual No. 32, August 2017;TasNetworks Service and Installation Rules, September 2018; Government of Western Australia, Department of Commerce, Energy Safety, WA Electrical Requirements, January 2014; NT Power and Water Corporation, Network Policy NP 003 InstallationRules, 20 July 2009; and in the ACT, Evoenergy, Service and Installation Rules, November 2018.

162 For example, the Victorian Service and Installation Rules cover topics such as supply application, connection and disconnection, supply types, use and protection, connection to the low voltage network, low voltage metering, and high voltage electrical installations.

163 In NSW these are called up in the *Electricity Supply Act* 1995 (NSW), the Electricity Supply (Safety and Network Management) Regulation 2014 (NSW) and in addition, licence conditions provide technical regulations and design and performance standards.

While a broad suite of Australian Standards are currently in place,[164] Standards Australia has identified a need for further work in the areas of microgrids, distributed energy coordination and electrical system operations.[165]

C.2.2 Commission's recommended position in SAPS - priority 1 final report

The Commission recommended that jurisdictional consumer protections should be extended to cover customers in DNSP-led SAPS including concessions, energy ombudsman, safety and technical standards to provide a complete framework for customers being supplied via a DNSP-led SAPS.[166]

The Commission noted that detailed analysis of all jurisdictional regulatory instruments had not been undertaken, and the position may vary depending on the exact wording of the jurisdictional instrument in question. Therefore, reviews of each regulatory instrument will be required by the responsible jurisdictional body.

The Commission's high-level position on each consumer protection regulated by jurisdictions is detailed below.[167]

164 Standards Australia, GB 3000-2017, Quick reference guide - wiring rules 2007 and electrical safety standards, provides a more comprehensive list of safety related standards. Other standards, such as some of those in the IEC and AS/NZS 61000 series are also relevant.

165 Standards Australia, Roadmap for standards and the future of distributed electricity, Final Report, May 2017, p. 12.

166 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 99.

167 AEMC, *Review of the regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, pp. 99-101.

Table C.1: Commission's recommended position on key consumer protections and reliability

CATEGORY	APPLICATION TO DNSP-LED SAPS
Retail price protections	• As the recommended SAPS service delivery model maintains access to retail competition, the Commission considers that additional retail price protections would not be required. • In areas with market competition, customers would have retailer choice and be able to access available market offers in the same manner as if they were grid-connected. • Similarly, in areas where there is jurisdictional price regulation, for example in Tasmania and regional Queensland, customers would continue to pay the regulated price.
Access to state-base energy concessions and rebates	• As the SAPS service delivery model recommended includes retail services being provided by an authorised retailer, customers in DNSP-led SAPS should be eligible for these rebates if they were eligible and met the other prerequisites as a grid-connected customer.
Access to independent dispute resolution	• As SAPS customers will be supplied by a licensed DNSP and an authorised retailer who are required to be members of the jurisdictional energy ombudsman schemes, customers in a DNSP-led SAPS will be able to access energy ombudsman schemes for independent dispute resolution with either the DNSP or the retailer. • The Commission noted that individual jurisdictional regulatory instruments governing energy ombudsman schemes may need to be reviewed by each jurisdiction to confirm if this is the case.
Safety of electricity supply	• The Commission recommended that DNSP's safety obligations should cover DNSP-led SAPS. • On the basis that DNSP-led SAPS are considered to be a distribution system (or similar, under jurisdictional definitions), the DNSP's safety obligations may extend to DNSP-led SAPS. • In instances where these obligations, generally placed on DNSPs via jurisdictional safety Acts, Regulations, guidelines and licence conditions, do not automatically extended to DNSP-led SAPS, amendments should be made to extend the DNSP's safety obligations to DNSP-led SAPS.
Technical regulation such as equipment and performance standards	• The Commission recommended that amendments are made to extend the DNSP's obligations to cover DNSP-led SAPS as well as the interconnected grid. •

CATEGORY	APPLICATION TO DNSP-LED SAPS
	• However, the Commission did not carry out a detailed investigation of the technical regulations applying in each jurisdiction.
Other GSL categories	• The Commission's analysis suggested that GSL categories that apply in different jurisdictions, apart from interruption of supply, would be able to be applied to DNSP-led SAPS.
Ability to access land required for the supply of electricity	• If the DNSP-led SAPS is considered to be a distribution system under the relevant jurisdictional definition, then it is likely that the DNSP's land access rights would extend to maintaining DNSP-led SAPS and installing any associated distribution network. • In some jurisdictions, if the SAPS is required to be located on the customer's property the DNSP may need to negotiate with the property owner to install a SAPS on their property.
Reliability	• For DNSP-led SAPS the Commission considered that reliability, security and quality standards with equivalent principles to those for grid-connected customers should apply. • Although the standards and measures do not necessarily need to be exactly the same as those that apply to grid-connected customers, reliability standards, GSL payments and STPIS should be extended to encompass DNSP-led SAPS. • In most jurisdictions, changes to the reliability standards and GSL schemes will be required to broaden their application to cover DNSP-led SAPS customers.

Source: AEMC

C.2.3 Commission's analysis and draft position

This section provides an overview of the Commission's proposed application of consumer protections for DNSP-led SAPS. The Commission's draft position largely reflects the recommendations in the SAPS priority 1 final report.

High level analysis of each consumer protection regulated by jurisdictions suggests that many jurisdictional consumer protections may automatically apply to DNSP-led SAPS, as the customer would continue to be supplied by their current DNSP and an authorised retailer.

However, with regard to the existing arrangements for technical regulation and performance standards, amendments to the NER and jurisdictional instruments may be required to the extent that the existing technical performance standards are relevant to the characteristics of SAPS systems. The Commission's approach to technical and performance standards for SAPS is discussed in more detail below.

Retail price protection

The Commission continues to consider that no additional retail price or competition protections would be required for customers supplied via a DNSP-led SAPS. This is on the basis that access to retail market competition will be maintained under the recommended SAPS service delivery model. Therefore, customers would have retailer choice and be able to access available market offers in the same manner as if they were grid-connected (where competition is available). In areas where there is jurisdictional price regulation, customers would continue to pay the regulated price. The application of the DMO is a matter for the Australian Government.[168]

Access to state-based energy concessions and rebates

The Commission continues to consider that customers in DNSP-led SAPS should be eligible for jurisdictional concessions or rebates (if they were eligible and met other prerequisites) in the same way as a grid-connected customer.[169] Under the proposed service delivery model for DNSP-led SAPS, retail services would be provided by an authorised retailer. As such, DNSP-led SAPS customers would continue to remain eligible.

Access to independent dispute resolution

The Commission continues to consider that customers in a DNSP-led SAPS should be able to access jurisdictional energy ombudsman schemes for independent dispute resolution. As the customer will be supplied by a licensed distribution business and an authorised retailer, each of which are required to be members of jurisdictional ombudsman schemes, SAPS customers are likely to be eligible. Jurisdictional regulatory instruments governing energy ombudsman schemes may need to be reviewed by each jurisdiction to confirm this is the case.

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168 The DMO does not apply if the total number of consumers to whom electricity retailers supplied electricity in the region, and any interconnected distribution regions, in the previous financial year was less than 100,000. The implications of this for DNSP-led SAPS are unclear. Competition and Consumer (Industry Code - Electricity Retail) Regulations 2019.

169 A prerequisite for many of these rebates or concessions is that the applicant must be a customer of a retailer (or exempt seller in some cases) and be listed as the account holder.

Safety of electricity supply

The Commission continues to have the position that, if a SAPS is considered to be part of a distribution system, the DNSP's safety obligations should extend to the DNSP-led SAPS. In instances where they may not automatically extend to a DNSP-led SAPS, amendments should be made to extend the DNSP's safety obligations to cover DNSP-led SAPS.

Ability to access land required for the supply of electricity

The Commission continues to be of the view that if the DNSP-led SAPS is considered to be a distribution system under the relevant jurisdictional definition, then it is likely that DNSP's land access rights would extend to maintaining DNSP-led SAPS and installing any associated distribution network.

Reliability

The Commission continues to consider that reliability, security and quality standards for with equivalent principles to those for grid-connected customers should apply to DNSP-led SAPS. Although the standards and measures do not necessarily need to be exactly the same as those that apply to grid-connected customers, reliability standards, GSL payments and the STPIS should be extended to encompass DNSP-led SAPS. In most jurisdictions, changes to the reliability standards and GSL schemes will be required to broaden their application to cover DNSP-led SAPS customers.[170]

Although the Commission considers that the STPIS should encompass DNSPs' SAPS as well as their interconnected distribution networks, it is important to note that a DNSP's ability to comply with the scheme will, in some instances, be shaped by the operation of the generating unit. For example, there is the potential for the interruption of supply to a SAPS customer to be caused by a failure related to the generating unit. However, DNSPs will remain responsible for maintaining reliability outcomes under the scheme. The Commission intends to further consider any implications for contracting between DNSPs and generation service providers prior to the final report.

Other GSL categories

The Commission considers that GSL categories that apply in different jurisdictions, apart from interruption of supply, would be able to be applied to DNSP-led SAPS. Currently, in most jurisdictions, GSLs for unplanned supply interruptions apply to customers connected to DNSPs' distribution network through a metered connection point, with thresholds for GSL payments differing depending on the classification of the feeder the customer is supplied from (i.e. whether they are supplied by a CBD feeder, urban feeder, short rural feeder, long rural feeder or isolated feeder), or whether the customers are in an area considered to be metropolitan or non-metropolitan/ rural.

If GSL thresholds are set by feeder category, some jurisdictions will need to provide an additional feeder category or similar to accommodate off-grid supply.

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170 For further detail on the extension of jurisdictional reliability standards and GSL schemes see AEMC, *Review of regulatory frameworks for stand-alone power systems - priority 1*, Final report, 30 May 2019, p. 99-101 and appendix B.

Technical regulation and performance standards

The Commission considers that power quality outcomes for DNSP-led SAPS customers should remain equivalent to those of customers connected to the grid. This contributes to maintaining the Commission's principle that customers should be no worse-off on transition to a DNSP-led SAPS.

In this context, the Commission's approach is that the existing technical and performance standards should apply where they are appropriate and required to maintain equivalent power quality outcomes for DNSP-led SAPS to those received by customers connected to the interconnected grid. This requires consideration of the numerous instruments where power quality obligations are set out including the NER, jurisdictional Acts, codes and licenses (depending on the jurisdiction) and relevant Australian Standards.

In respect of the power quality obligations in the NER, the Commission has reviewed each of the relevant schedules in Chapter 5 of the NER in order to understand whether amendments are needed to clarify that a particular standard is or is not relevant in the context of SAPS. For the most part, the Commission considers that application (or otherwise) of the NER chapter 5 technical standards schedules is apparent from the nature of the requirements themselves - for example, if a connection to the national grid does not exist then several standards fall away automatically, and others are limited in their application to situations that actually exist. A limited number of amendments to the technical standards schedules are proposed to clarify that particular standards apply, or do not apply, in respect of DNSP SAPS. If a registered generator or market customer seeks to connect to a DNSP-led SAPS, the Commission considers existing provisions under Chapter 5A of the NER allow DNSPs sufficient flexibility to negotiate connection applications.[171] This should allow DNSPs to appropriately manage the operation of SAPS systems.[172]

An overview of the proposed application of the technical standards set out in schedules 5.1a through to 5.3a is provided in Table C.2 below. The Commission encourages stakeholder feedback in this area, in light of the principle that customer outcomes in a DNSP SAPS, including in relation to quality of electricity supply, should remain equivalent to those of grid-connected customers.

In particular, the Commission intends to further consider the potential for certain power quality requirements for SAPS to vary from those in the technical standards set out in schedules 5.1a and 5.1, and would welcome feedback on the appropriateness of applying these technical standards to SAPS. To the extent that the rigid application of these technical standards might not be necessary for all SAPS customers, the Commission will give consideration as to how they might be relaxed on a case by case basis. In such circumstances, it would likely be appropriate for customer consent to be required, but the Commission notes for the potential for negotiations between DNSPs and small customers to raise consumer protection issues.

171 NER clause 5A.C.3 (6).

172 See appendix B, section B.3.1.

Table C.2: **Proposed application of NER Chapter 5 Schedules 5.1a to 5.3a to DNSP-led SAPS**

SCHEDULE	PROPOSED APPROACH TO APPLICATION
Schedule 5.1a System Standards	**S5.1a.1 Purpose**: General principles continue to apply. **S5.1a.2 Frequency**: Continues to apply. Note: while national grid frequency performance is the responsibility of AEMO, it becomes the DNSP's responsibility for DNSP-led SAPS. **S5.1a.3 System stability**: Does not apply. **S5.1a.4 Power frequency voltage**: Continues to apply. Note: a "contingency event" trigger does not apply to a SAPS. The power frequency voltage limits continue to apply, including the provision for power factor and reactive power flow at the connection point. **S5.1a.5 Voltage fluctuations**: Continues to apply. No changes needed if the SAPS is regulated under jurisdictional DNSP network licensing. **S5.1a.6 Voltage waveform distortion**: Continues to apply. No changes needed if the SAPS is regulated under jurisdictional DNSP network licensing. **S5.1a.7 Voltage unbalance**: Continues to apply. No changes needed if the SAPS is regulated under jurisdictional DNSP network licensing. **S5.1a.8 Fault clearance times**: Does not apply.
Schedule 5.1 Network Performance Requirements to be Provided or Co-ordinated by Network Service Providers	**S5.1.1 Introduction**: Continues to apply. No changes needed if the SAPS is regulated under jurisdictional DNSP network licensing. **S5.1.2 Network reliability** **S5.1.2.1 Credible contingency events:** Does not apply. **S5.1.2.2 Network service within a region:** Continues to apply. **S5.1.2.3 Network service between regions:** Does not apply. **S5.1.3 Frequency variations:** Continues to apply.

SCHEDULE	PROPOSED APPROACH TO APPLICATION
	S5.1.4 Magnitude of power frequency voltage: Continues to apply. **S5.1.5 Voltage fluctuations:** Continues to apply. **S5.1.6 Voltage harmonic and voltage notching distortion:** Continues to apply. **S5.1.7 Voltage unbalance:** Continues to apply. **S5.1.8 Stability:** Does not apply. **S5.1.9 Protection systems and clearance times:** Continues to apply. **S5.1.10 Load, generation and network control facilities:** Continues to apply. **S5.1.11 Automatic reclosure of transmission or distribution lines:** Continues to apply. **S5.1.12 Rating of transmission lines and equipment:** Will not apply in practice, as AEMO has no reason to request this information. **S5.1.13 Information to be provided:** Does not apply.
Schedule 5.2 Conditions for Connections of Generators	Does not apply.
Schedule 5.3 Conditions for Connections of Customers	Does not apply.
Schedule 5.3a Conditions for Connection of Market Network Services	Does not apply.

Source: AEMC

As recommended in the SAPS priority 1 final report, jurisdictions will need to review the relevant jurisdictional Acts, codes and licenses in respect of technical regulations and performance standards - including those governing power quality obligations - to ensure these are clear and fit-for-purpose in the context of SAPS.

D OUTLINE OF PROPOSED CHANGES TO THE NER AND THE NERR

This appendix outlines the changes to the NER and the NERR that the Commission considers would be necessary to allow for DNSP SAPS to be implemented and regulated under those rules in the manner outlined in this report.

These proposed changes, and related or consequential changes, are set out in the table below, in the order in which those changes would appear in the NER and the NERR. The draft proposed changes themselves are published with this draft report in the form of markup against the rules (modified, where appropriate, to take into account significant amending rules that have been made but are not yet in force - for example, the rules relating to global settlement).

Table D.1: **Commentary on draft proposed SAPS rules**

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
NER Chapter 2	
Overview	Four key activities need to be considered for Chapter 2 purposes. • **The ownership, operation or control of the distribution system elements in a regulated SAPS**: The relevant DNSP will already be registered under the NER for these activities. • **The ownership, operation or control of the generating unit (or units) supplying electricity to a regulated SAPS**: An exemption from registration under clause 2.2.1(c) can be sought in accordance with AEMO's guidelines, which AEMO will review to take into account generation connected to a regulated SAPS. • **The sale or purchase (through AEMO under Chapter 3 of the NER) of the electricity generated by, or used by, a SAPS generator**: As explained below, it is proposed the person entitled to payment (or required to pay) will register using the Small Generation Aggregator category. (A generator can purchase energy in a SAPS if there is more than one generating unit connected to the SAPS.) • **The purchase (through AEMO under Chapter 3 of the NER) of electricity consumed by customers in a SAPS**: A retailer, or customer buying from the NEM, will need to be registered under the NER as a Customer. A retailer will need a retailer authorisation under the National Energy Retail Law.
2.2.1(c)	No change is proposed to this clause. It is proposed that the transitional rules in Chapter 11 will require AEMO to review its generation exemption guidelines to take into account the changes to the Rules for regulated SAPS.

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	Assuming the guidelines apply in relation to small (<30 MW) generators connected to a regulated SAPS as they do to other generators: • generators smaller than 5 MW will be automatically exempt; and • an exemption would likely be available for a generator between 5MW and 30MW if there is a Small Generation Aggregator for the generator. The connection of larger generators (> 30 MW) seems unlikely but cannot be ruled out. Whether these are exempt will be for consideration by AEMO as part of its review of the guidelines. Even if not exempt, a Generator could not participate in dispatch or the spot market in relation to a generating unit connected to a regulated SAPS – refer to proposed new rule 3.21. If an exemption under clause 2.2.1(c) applies, classification is not required under clauses 2.2.2 to 2.2.7. However, the generating unit may be classified as a market generating unit under rule 2.3A.
2.3.4(c)	The load at a connection point in a regulated SAPS purchased other than from the Local Retailer will be classified as a market load under clause 2.3.4(a). It is proposed to change 'spot market' to 'market' in this clause since electricity supplied in a regulated SAPS is not purchased from the spot market. It is also proposed to include a reference to the arrangements under rule 3.21 in the definition of 'market'. The Rules made for global settlement will amend clause 2.3.4 from 6 February 2022. However, paragraph 2.3.4(c) is not affected by those amendments.
2.3.4(d)	The amendment to paragraph (d) makes it clear that a load in a regulated SAPS cannot be classified as a scheduled load. This change is for the avoidance of doubt, as the load could not in any event participate in dispatch due to proposed new rule 3.21. No similar change has been proposed in clause 2.3.5 as (in the very unlikely event classification were to be sought) AEMO would be able to refuse consent to classification of a load connected to a regulated SAPS as an ancillary services load as the requirements in clause 2.3.5(e) will not be met.
2.3A.1	Rule 2.3A provides for registration of Small Generation Aggregators and classification of their small generating units as market generating units. Registration as a Small Generation Aggregator allows the output from a small generating unit to be sold through the spot market without imposing the full suite of obligations that apply in relation to generating units for which a registration exemption has not been granted. It is also flexible as the person who registers as the Small Generation Aggregator need not be the owner, operator or controller of the small generating unit. (While the owner,

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	operator or controller of a non-exempt generating unit can be exempt from registration if it appoints an intermediary, it would remain jointly and severally liable for the acts of the intermediary.) The draft Rule proposes to extend the Small Generation Aggregator category so that it can be used to register the person entitled to payment from AEMO under Chapter 3 for the electricity generated by a generating unit connected to a regulated SAPS, or responsible for payment if the facility consumes electricity in any circumstances. This approach allows for flexible SAPS commercial models. For example, if permitted by a ring-fencing waiver, the DNSP could register as the Small Generation Aggregator even if it does not own or operate the generating unit. The term 'large SAPS generating unit' needs to be added to the clause to extend it to a generating unit connected to a regulated SAPS that is not a small generating unit. A small generating unit must be both smaller than 30 MW and its owner/controller/operator must be exempt from registration. The large SAPS generating unit category will allow for the possibility of a SAPS generator larger than 30 MW, or a SAPS generating unit smaller than 30 MW in respect of which no exemption from registration is granted. The proposed amendments to clause 2.3A would: • include references to large SAPS generating units so as to allow a person to register as a Small Generation Aggregator in relation to a small generating unit connected to a SAPS or a large SAPS generating unit; • require a Small Generation Aggregator to classify a small generating unit connected to a SAPS or a large SAPS generating unit as a market generating unit; • require a Small Generation Aggregator to sell the output from the SAPS generating unit and buy any electricity consumed by the facility under Chapter 3; • change references to the 'spot market' and 'spot price' to 'the market' and 'the price' respectively, to reflect that generating units in a regulated SAPS do not participate in the spot market; and • make other minor drafting adjustments.
2.10.1(d1)	Consequential amendments to this paragraph provide for AEMO to reject a notice from a Market Small Generation Aggregator to declassify a generating unit connected to a SAPS unless AEMO is satisfied someone else is taking responsibility for it under the Rules or it is being disconnected.
NER Chapter 3	
	Chapter 3 will apply in relation to a regulated SAPS as follows:

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	• energy-related payments will be included in the calculation of settlement amounts; • energy-related payments will be calculated using a SAPS settlement price instead of the spot price (although this will be done by first calculating the amount using the spot price and then adjusting to the equivalent SAPS settlement price); and • the calculation of non-energy payments to be made by a Market Small Generation Aggregator or a Market Customer will take into account energy supplied to or taken from a regulated SAPS. Much of Chapter 3 is concerned with pre-dispatch, the dispatch process and the determination of spot market prices and loss factors for connection points in the interconnected grid. These arrangements will not apply in respect of a regulated SAPS.
3.12A	Rule 3.12A has not been amended as it is the subject of a rule change request to delete the rule.
3.15 General principles	Rules 3.15 provides for the calculation of settlement amounts for energy (spot market transactions) and non-energy fees or charges. In relation to energy charges, refer to the changes to clauses 3.15.6 and new rule 3.21. In relation to non-energy charges, it is intended that the calculation of energy quantities (such as AGE) under clause 3.15 will include quantities in a regulated SAPS. As a result, a Market Small Generation Aggregator for a SAPS-connected generating unit and the Market Customer for a connection point in a regulated SAPS will have energy supplied to or from a regulated SAP taken into account when calculating non-energy charges under clause 3.15. A list of these charges is in the report. The exception is procurer of last resort (PoLR) cost allocation under clause 3.15.9A. Changes to Chapter 4A are intended to exclude SAPS energy from this calculation.
3.15.1	A reference to clause 3.21.3 has been added, which is the proposed clause under which adjustments are calculated for electricity generated and consumed in a regulated SAPS.
3.15.4(b)	A consequential change carves out connection points in a regulated SAPS.
3.15.4(c)	This new paragraph provides for calculation of the adjusted gross energy (AGE) for a connection point in a regulated SAPS for a trading interval. The paragraph is required in order to be clear how the sign (positive or negative) for ME in a regulated SAPS is determined, as the approach in paragraph (b) used for other distribution connection points (flow towards the transmission

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	network connection point or in the opposite direction) does not work for a SAPS. A DLF of 1 is applied. In other words, there is no adjustment for distribution losses. DLF is nonetheless retained in the calculation for consistency.
3.15.5(a)	A second note is intended to explain why this paragraph (a) does not take into account energy quantities in a regulated SAPS. These quantities need to be excluded so as to avoid double counting under this paragraph and new paragraph (a1).
3.15.5(a1)	New paragraph (a1) allows for calculation of UFE in regulated SAPS. The calculation is carried out for all the regulated SAPS of a DNSP. Although UFE in a regulated SAPS is likely to be negligible, Chapter 3 needs to accommodate the calculation. ME will be positive for generation and negative for consumption, so ADME is a net figure.
3.15.5(b1)	This requires UFE in the regulated SAPS of a DNSP to be allocated to customers in those regulated SAPS consuming electricity in the trading interval.
3.15.5(c) and (d)	Consequential amendments to the calculation provide for the calculation of the amount to be allocated for the purposes of paragraph (b1).
3.15.6(a)	The term TLF has been amended to define the TLF for connection points in a regulated SAPS. This will be 1. In other words, there is no adjustment for transmission losses in a regulated SAPS. A spot market trading amount is calculated for the connection point in a regulated SAPS. A further trading amount calculated under new rule 3.21 in effect replaces it with an amount calculated at the SAPS settlement price.
3.15.6A(c8)	A missing word has been reinstated.
3.15.6A(o)(6)	The definition of 'applicable connection point', used in the definition of 'small generator energy', has been amended to include a reference to connection points for large SAPS generators. The term 'national grid' in Chapter 10 will be amended to include regulated SAPS.
3.15.8(h)	A reference to connection points for large SAPS generators has been included in subparagraph (6), which defines 'applicable connection point'. Other typographical changes are proposed for consistency.
New 3.21.1	This new clause explains how Chapter 3 applies to a regulated SAPS. • Paragraph (b) explains that rules 3.3 (prudentials), 3.15 (settlement) and 3.21 apply in respect of regulated SAPS, SAPS energy, SAPS Participants,

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	SAPS facilities and connection points in a regulated SAPS. • Paragraph (c) clarifies (for the avoidance of doubt) when SAPS energy is included in the calculation of trading amounts under clause 3.15. Paragraphs (d) and (e) exclude the application of the balance of Chapter 3; paragraph (d) in general terms and paragraph (e) with respect to specific matters.
New 3.21.2	This clause provides for calculation of the SAPS settlement price. The price will be calculated for each financial year and region as the time-weighted average spot price for the region for the preceding financial year. AEMO is required to calculate and publish this price.
New 3.21.3	For each trading interval, a trading amount will be calculated for SAPS connection points to adjust for the difference between the spot market price and the SAPS settlement price. This clause makes that calculation. The trading amount is then included in settlement under clause 3.15.12(a).
NER Chapter 4	
4.1.2	A new clause carves out regulated SAPS from the operation of Chapter 4.
Note under 4.1.2	The note draws attention to proposed new section 109A of the NEL, under which: • AEMO's functions with respect to power system security (including under Part 8 and section 49) and sensitive loads; and • AEMO's power to give directions under section 116 would only extend to a regulated SAPS or a sensitive load supplied by means of a regulated SAPS system to the extent provided for in the NER.
NER Chapter 4A	
General approach	The draft report proposes that electricity supplied to a customer in a regulated SAPS should not be taken into account for the purposes of the Retailer Reliability Obligation, as the Retailer Reliability Obligation is principally concerned with reliability for customers connected to the interconnected national grid.
4A.A.4(b)(1)	The proposed amendment is intended to result in demand in a regulated SAPS being disregarded when calculating the peak demand for a region for a trading interval. Under the NEL, peak demand is defined in section 14C as follows: "***peak demand***, for a period in a region, means the maximum electricity demanded, in megawatts, in the region during the period, determined in accordance with the Rules".
4A.D.1	Part D of Chapter 4A defines who is a liable entity for a region (clause

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	4A.D.2) and this in turn depends on whether the person is "registered as a *Market Customer* for a *connection point* in that *region* at the end of the contract position day". Electricity supplied to a customer in a regulated SAPS should not be taken into account for the purposes of the Retailer Reliability Obligation. The proposed amendment to clause 4A.D.1 is intended to achieve this by providing that in Part D, a reference to a connection point does not include a connection point in a regulated SAPS.
4A.E.1 and 4A.E.2	No changes to these clauses are proposed. Clause 4A.E.1 provides for the AER's Contracts and Firmness Guidelines to include guidance for liable entities to determine whether a contract or arrangement is a qualifying contract. Clause 4A.E.2 specifies how the net contract position of a liable entity is determined. The provisions are concerned with a liable entity's exposure to the volatility of the spot price in a region. The draft report takes the view that consumption in a regulated SAPS is not exposed to the volatility of the spot price; the consumption results in a spot market transaction but is offset by a corresponding adjustment so that the effective price is the SAPS settlement price. The draft proposed provisions in Chapter 11 provides for the Contracts and Firmness Guidelines to be reviewed by the AER. Those Guidelines could clarify how clauses 4A.E.1 and 4A.E.2 apply in relation to consumption in a regulated SAPS, if required.
4A.E.7	Clause 4A.E.7 explains when a liable entity may apply to the AER for approval to adjust its net contract position for a region. This includes where the number of connection points for small customers or large customers (measured separately) in the region for which the liable entity is financially responsible changes the liable entity's expected maximum demand by more than 10%. No amendment to this clause is proposed on the basis that connection points in regulated SAPS will not be taken into account in determining the liable entity's expected maximum demand, as this in turn relates to its net contract position which, as described above, is concerned with a liable entity's exposure to the volatility of the spot price in a region.
4A.F.1	Part F of Chapter 4A deals with compliance with the Retailer Reliability Obligation and for that purpose, defines a liable entity's liable load (clause 4A.F.3). A proposed new paragraph 4A.F.1(c) would make it clear that (as in Part D),

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	a reference to a connection point in Part F does not include a connection point in a regulated SAPS and (to avoid doubt) would state that the adjusted gross energy at a connection point in a regulated SAPS must not be taken into account in determining liable load for a compliance TI.
NER Chapter 5	
Chapter 5 Parts B and C- Connection applications and obligations of connected parties: Overview	The connection framework in Chapter 5 will not apply to any SAPS connection. Only Chapter 5A will apply. This is intended to operate as follows: • For the 'connection' of the generating unit that enables the conversion to a SAPS to occur: Assuming the DNSP runs a procurement process for that generation, the likely result is a connection agreement and a service agreement between the DNSP and the owner of the generation. However, this does not require an 'application to connect' process to be followed under Chapter 5 nor does it require the connection to be governed by the technical requirements in Schedule 5.2 in Chapter 5. To the extent the NER connection rules are relevant to this process, Chapter 5A will apply. • For a connection by a third party to the regulated SAPS: Chapter 5 does not provide a suitable framework for connection of a facility to a SAPS, as it is intended principally for connections by Registered Participants to the interconnected network and includes processes and technical requirements directed at system security issues. Chapter 5A is the appropriate framework for a third-party generator or customer to apply to connect to a regulated SAPS.
5.1.3	This clause is intended to carve out connections to a regulated SAPS from the scope of Chapter 5, while also preserving the general obligations of DNSPs in relation to the quality and reliability of supply in a regulated SAPS. The clause has two parts as follows: • Rules 5.3 and 5.3A do not apply: All applications to connect to a regulated SAPS will be subject to Chapter 5A. Chapter 5A will be amended so as to provide that in the case of an application to connect an embedded generator to a regulated SAPS, no election to proceed under rule 5.3A of Chapter 5 is available. • Part C does not apply. Part C deals with post connection agreement matters that are not appropriate for a connection to a regulated SAPS.
5.2.3(b) Network standards	The obligations of a DNSP under clause 5.3.1(b) with respect to its network will continue to apply to a DNSP in relation to its regulated SAPS. This includes complying with the power system performance and quality of

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
5.2.3(f) Compliance	supply standards in Schedule 5.1 (clause 5.2.3(b)).
5.2.3(e)	A DNSP will not be required to arrange for operation of a regulated SAPS in accordance with instructions given by AEMO. Although this may seem self-evident, the clause is a civil penalty provision and so an amendment is proposed to clarify that the obligation in paragraph (f) does not extend beyond the interconnected grid.
5.3 and 5.3A	As provided for in new clause 5.1.3, neither of these rules will apply in relation to a connection to a regulated SAPS.
5.3A.2	A consequential change uses the new term "industry engagement document" – refer to the changes to Part D of Chapter 5.
Part C: Post connection matters	As provided for in new clause 5.1.3, none of Part C will apply in relation to a connection to a regulated SAPS.
Chapter 5 Part D – Network Planning and Expansion: General principles	It is proposed to amend Part D to: • extend the demand side engagement provisions to cover industry participants interested in proposing, or tendering for, regulated SAPS solutions; and • include new requirements for engagement with customers and other affected persons before implementing a regulated SAPS. The extended scope of Part D will only apply in relation to networks located in a participating jurisdiction that has opted in to the DNSP-led SAPS arrangements under the National Electricity Law. The Law may allow for partial opt-in, allowing for opt-in for specific networks or network areas. The proposed drafting is intended to be sufficiently flexible to accommodate partial opt-in.
5.10.2 Definitions – industry engagement	A new term 'SAPS option' will be included (in Chapter 10) to mean proposals for a regulated SAPS and the terms 'network option' and 'non-network option' will be amended to carve out SAPS options. In the local definitions in clause 5.10.2: • 'demand side engagement' has been replaced with the term 'industry engagement', to reflect the extended scope of the demand side engagement provisions and avoid confusion with the customer engagement arrangements; • the term 'non-network provider' will be retained but extended to persons providing SAPS support services – refer to the definition below; • the RIT-D process will apply to a proposed regulated SAPS solution, and so the non-network options report has been renamed the 'options

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	screening report'.
Definitions – SAPS customer engagement	Chapter 10 will include a definition of DNSP-led SAPS project (A project undertaken or proposed to be undertaken by a Distribution Network Service Provider to address system limitations identified by a Distribution Network Service Provider and that involves the planning, development, construction and commissioning of a regulated SAPS.) The local definitions in clause 5.10.2 will include: • adoptive SAPS jurisdiction (with a cross reference to the definition in the Law); • adoptive SAPS network (the particular network for which the adoptive SAPS jurisdiction has authorised the use of regulated SAPS solutions) • affected network user (to cover the network users in the part of the network to be converted, and landowners); • landowner (the owner or lessee of land); • SAPS customer engagement document; • SAPS customer engagement objectives (to cover the provision of relevant and timely information about DNSP-led SAPS and SAPS development processes, and timely and effective consultation during project planning, development, construction and commissioning); and • SAPS customer engagement strategy (covering the strategy to be developed under clause 5.13.4(a)).
5.13.1(e) to (j)	In addition to using the new defined terms mentioned above, it is proposed to amend these to: • extend the scope of the strategy referred to in paragraph (e) to consideration of SAPS options, for networks that have been opted into the SAPS arrangements; and • remove the date for publication of the strategy document (since it currently refers to a date in 2013) and instead specify in Chapter 11 the date by which a revised strategy document must be published once a network has been opted in.
New 5.13.4	A new clause is proposed to cover: • the obligation of a DNSP network that has opted in to the regulated SAPS arrangements to develop a SAPS customer engagement strategy and publish it in a SAPS customer engagement document; • matters the DNSP must have regard to when developing the SAPS customer engagement document; •

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	• power for the AER to publish guidelines about the content of a SAPS customer engagement document; • the obligation of a DNSP to give notice of a proposal to convert a part of a network to a regulated SAPS in accordance with its SAPS customer engagement document, including the content of the notice, who it must be given to and the obligation to allow time to respond; and • an exception to the obligation to give the notice where the regulated SAPS is required to address an urgent and unforeseen network issue, for example if the regulated SAPS will replace facilities damaged by bushfire.
5.14.1	A consequential amendment uses the new defined term.
5.15.2(c)	A drafting change in paragraph (a) makes it clear that regard must be had to all relevant matters in clause 5.15.2, rather than limiting the cross reference to (b) or (d). Paragraph (c) has been amended to include a reference to SAPS options.
5.17.1(c)	A consequential amendment uses the new defined term.
5.17.1(d)	Change to provide that a RIT-D proponent must (rather than may) quantify all classes of market benefit for RIT-D purposes, where material or where to do so may alter the selection of the preferred option.
5.17.4	Consequential amendments to the clause use the new terms such as 'industry engagement register" and "options screening report" and extend the scope of the clause to consideration of SAPS options in adoptive SAPS jurisdictions.
5.18B.1	Consequential amendments clarify that the register of completed embedded generation projects is to include embedded generators forming part of a regulated SAPS.
Schedule 5.1a (the system standards)	An amendment has been made such that clause S5.1a.8 does not apply to a regulated SAPS. Otherwise, the schedule is intended to apply in relation to a regulated SAPS as follows: • **S5.1a.1 Purpose**: The general principles apply. • **S5.1a.2 Frequency**: National grid frequency performance will be the responsibility of AEMO. In a regulated SAPS, it is the responsibility of the relevant DNSP. • **S5.1a.3 System stability**: This provision applies in relation to the power system, which does not include a regulated SAPS. • **S5.1a.4 Power frequency voltage**: The power frequency voltage limits apply in relation to a regulated SAPS, including the provision for

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	power factor and reactive power flow at the connection point. The "contingency event" triggers will not be determined for regulated SAPS and those parts of the clause are not relevant in a regulated SAPS. • **S5.1a.5 Voltage fluctuations**: The clause applies in relation to a regulated SAPS. • **S5.1a.6 Voltage waveform distortion**: Continues to apply. No changes needed if the SAPS is regulated under jurisdictional DNSP network licensing. • **S5.1a.7 Voltage unbalance**: The clause applies in relation to a regulated SAPS. • **S5.1a.8 Fault clearance times**: This provision is not intended to apply in relation to a regulated SAPS.
Schedule 5.1	Amendments to the schedule are intended to achieve the following: • **S5.1.1 Introduction**: The general principles apply. • **S5.1.2.1 Credible contingency events**: Does not apply. • **S5.1.2.2 Network service within a region**: Applies in relation to a regulated SAPS. • **S5.1.2.3 Network service between regions**: Not relevant to a regulated SAPS. • **S5.1.3 Frequency variations**: Applies in relation to a regulated SAPS. • **S5.1.4 Magnitude of power frequency voltage**: The first part of the clause only **a**pplies in relation to TNSPs. The final paragraph applies to DNSPs including in relation to a regulated SAPS. • **S5.1.5 Voltage fluctuations**: Applies in relation to a regulated SAPS. • **S5.1.6 Voltage harmonic and voltage notching distortion**: Applies in relation to a regulated SAPS. • **S5.1.7 Voltage unbalance**: Applies in relation to a regulated SAPS. • **S5.1.8 Stability**: Does not apply in relation to a regulated SAPS. • **S5.1.9 Protection systems and clearance times**: Applies in relation to a regulated SAPS. • **S5.1.10 Load, generation and network control facilities**: Applies in relation to a regulated SAPS. • **S5.1.11 Automatic reclosure of transmission or distribution lines:** Applies in relation to a regulated SAPS. • **S5.1.12 ratings of transmission lines and equipment**: No change – assumes a request for information will not be made. •

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	• **S5.1.13 Information to be provided**: Will not apply, as rule 5.3 does not apply to a connection to a regulated SAPS.
Schedule 5.2	It is intended that new clause 5.1.3 has effect such that this schedule does not apply in relation to generation connections in a regulated SAPS.
Schedule 5.3	New S5.3.1a(f) specifies that the schedule does not apply in relation to a Network Service Provider or a Network User in relation to a connection to a regulated SAPS.
Schedule 5.3a	It is intended that new clause 5.1.3 has effect such that this schedule does not apply in relation to Market Network Service Provider connections.
Schedule 5.8 DAPR	New paragraph (d1) provides for the DAPR for a network in an adoptive SAPS jurisdiction to include information on system limitations in the forward planning period for which a potential solution is a regulated SAPS, including estimates of the location and timing of the system limitation and a brief discussion of the types of potential stand-alone power systems that may address the system limitation. New paragraph (o) provides for reporting on DNSP-led SAPS projects and the total number of regulated SAPS in a DNSP's network and the number of customer premises served by them.
Schedule 5.9 Demand side engagement document	The schedule has been re-named to use the new term "Industry engagement document" and similar consequential changes made throughout. The scope of the schedule has been extended to cover proposals relating to DNSP-led SAPS projects.
NER Chapter 5A	
Overview	The draft report proposes that only Chapter 5A will apply where a person is seeking connection to a regulated SAPS. Chapter 5A (in its current form) does not apply to applications for connection by a Registered Participant or Intending Participant (clause 5A.A.2). It is proposed to amend Chapter 5A so that it applies where a Registered Participant or Intending Participant is seeking connection to a regulated SAPS. This might occur where, for example, a customer wishes to buy from the NEM at the SAPS settlement price. For connection charging purposes, Registered Participants and Intending Participants will be treated in the same category as real estate developers.
Retail customer definition	A new paragraph extends the definition to a Registered Participant or Intending Participant in relation to a regulated SAPS. This in turn extends the meaning of terms such as 'connection applicant'.
5A.A.2(a)	The amendment allows Chapter 5A to apply where a Registered Participant

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	or Intending Participant is seeking connection to a regulated SAPS.
5A.A.2(c)	This clause allows certain non-registered embedded generators to elect to seek connection under Chapter 5, rather than 5A. A new sentence provides that this election is not available for a connection to a regulated SAPS.
5A.A.3	This clause relates to Market Small Generation Aggregators. To reflect the approach in Chapter 2, references to large SAPS generating units have been added.
New 5.A.4	This clause prohibits a DNSP from establishing a new connection to its network by converting a part of its network to a regulated SAPS or establishing a new regulated SAPS.
5A.D.1(a)(3)	The amendment corrects the use of italics for the defined term.
5A.D.1A(a)	The amendment corrects the use of italics for the defined term.
5A.E.1(b)	The amendment allows for Registered Participants and Intending Participants to be required to contribute to the cost of augmentation of a regulated SAPS.
5A.E.1(c)(5)	The amendment allows for Registered Participants and Intending Participants to be required to contribute to the cost of augmentation of a regulated SAPS.
5A.E.3(c)(4)	The amendment excludes Registered Participants and Intending Participants from the arrangements under which the AER sets a threshold below which retail customers are exempt from any requirement to pay connection charges.
5A.E.4(c)	Additional words allow for invoices to be sent to a Registered Participant or Intending Participant.
NER Chapter 6	
New 6.2.1A	This deals with classification of services provided in relation to a SAPS. The proposed new clause takes into account the approach described by the AER in its Electricity Distribution Service Classification Guideline (September 2018) when distinguishing between services (which the NER permits to be classified) and inputs (which are not classified under the NER) such as the capital and operating inputs that contribute to the provision of a service. • For network services provided in a SAPS that are also provided in non-SAPS networks: The same classification must be applied. • The activities of a DNSP in establishing, operating or maintaining a regulated SAPS or arranging for the provision of services or facilities required for the operation of a regulated SAPS must be classified as a standard control service or treated as an input into a standard control service.
6.2.3A(b)(4)	The amended clause requires the Distribution Service Classification Guidelines to explain how the principles in 6.2.1A are applied.

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
6.5.6(e)(10)	Under the amended clause, the AER is to consider the extent the Distribution Network Service Provider has considered, and made provision for, efficient and prudent non-network options or SAPS options.
6.5.8(c)(5)	Under the amended clause, the AER is to consider the possible effect of the scheme on incentives for the implementation of non-network options or SAPS options.
6.6.2(b)(3)(vii)	Under the amended clause, the AER is to consider the possible effect of the scheme on incentives for the implementation of non-network options or SAPS options.
6.6.3(c)(3)	Under the amended clause, "Demand management scheme should balance the incentives between expenditure on network options or SAPS options and non-network options"
6.6.3(c)(7)(i)	The amendment clarifies that the reference to non-network options is to non-network options relating to demand management (consistent with clause 6.6.3(c)(3)).
6.6.3A(c)(2)(ii)	As for 6.6.3(c)(7), the amendment clarifies that the reference to non-network options is to non-network options relating to demand management.
6.7A.1(a) and (b)(2)(v)	Consequential amendment to these clauses reflect the changes in Chapter 5A under which give an extended meaning to "retail customer' in some circumstances and exclude Registered Participants and Intending Participants from the threshold set by the AER.
New 6.18.4(a)(4)	The clause provides that, in relation to assignment to tariff classes, retail customers connected to a regulated SAPS should be treated no less favourably than retail customers with a similar load profile connected to the interconnected national electricity system (similar to the provision above relating to customers with micro-generation facilities such as solar PV). Consequential amendments are made to clauses 6.18.4(a)(2), (3) and (5).
NER Chapter 10	
distribution system	Amended to specify that a distribution system includes the distribution network and connection assets comprised in a regulated SAPS.
DNSP-led SAPS project	The new definition is used in Chapter 5 to describe a project to implement a regulated SAPS undertaken by a Distribution Network Service Provider to address system limitations. A stand-alone power system is only a regulated SAPS if it is implemented as a DNSP-led SAPS project.
large SAPS generating unit	This definition allows for generating units connected to a SAPS that do not satisfy the definition of 'small generating unit' because they are larger than 30 MW or are not the subject of an exemption from registration.

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
market	The amendment specifies that it includes the arrangements in Chapter 3 for supply and purchase of electricity in a regulated SAPS. The term 'market' is used in Chapter 2 to define the scope of some obligations under that Chapter.
Market Small Generation Aggregator	A consequential amendment includes a reference to a large SAPS generating unit.
national grid	Amended to include regulated SAPS within the scope of the term. These would otherwise be excluded as they are not connected within the meaning of the current definition. One provision has been amended in Chapter 5 to avoid an unintended consequences arising from this amendment.
network option	A consequential amendment is proposed to exclude a SAPS option from the scope of the definition. The term is used in the context of distribution network planning under Part D of Chapter 5. This amendment, together with the amendment to non-network option and the new definition of SAPS option is intended to result in the following three categories for the purposes of those provisions • network options • SAPS options • non-network options.
non-network option	A consequential amendment is proposed to be clear that a non-network option is an option that is not a network option or a SAPS option.
power system	An amendment proposed to carve out regulated SAPS. The term is principally used in the context of provisions directed at system security, which are not intended to apply in relation to regulated SAPS.
regulated SAPS, regulated stand-alone power system	A regulated SAPS will be a stand-alone power system implemented as part of a DNSP-led SAPS project.
SAPS energy	This definition is used in proposed new rule 3.21 to carve out SAPS energy from scheduling, dispatch and spot market operations under Chapter 3. It describes electrical energy flowing at a connection point (including a child connection point) in a regulated SAPS.
SAPS facility	This definition is used in proposed new rule 3.21 to carve out SAPS facilities from scheduling, dispatch and spot market operations under Chapter 3. It

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
	describes a facility comprised in or connected, directly or indirectly, to a regulated SAPS.
SAPS option	The term is used in the context of distribution network planning under Part D of Chapter 5 and, consistent with the definition of 'network option', is proposed to be defined as a means by which an identified need can be fully or partly addressed by converting a part of a distribution network to a regulated SAPS.
SAPS Participant	This definition is used in proposed new rule 3.21 to carve out SAPS Participants from scheduling, dispatch and spot market operations under Chapter 3. It refers to a Registered Participant in its capacity as: • the owner, operator or controller of a SAPS facility; or • the financially responsible Market Participant in respect of a connection point in a regulated stand-alone power system.
SAPS settlement price	The term is used in new rule 3.21 and is proposed to mean, for a trading interval, the price determined in accordance with clause 3.21.2 and 3.21.3 to be the SAPS settlement price for the financial year in which the trading interval falls.
Small Generation Aggregator	A consequential amendment includes a reference to a large SAPS generating unit.
stand-alone distribution system	Under the Rules, will have the meaning given in the National Electricity Law.
stand-alone power system	Under the Rules, will have the meaning given in the National Electricity Law.
transmission or distribution system	Under the current Rules, this only covers the interconnected national electricity system. It is proposed to amend this term to include a regulated SAPS.
NER Chapter 11	
AEMO-made instruments	The second clause in the new Part lists the instruments for review by AEMO and amendment if needed, before the effective date. These are proposed to be: • the generator registration exemption guidelines made by AEMO under rule 2.2.1(c); • the Market Management Systems Access Procedures; • the PoLR costs procedures; and • the Reliability Forecast Guidelines.

RULE REFERENCE	EXPLANATORY NOTES AND COMMENTS
AER-made instruments	The third clause in the new Part lists the instruments for review by the AER and amendment if needed, before the effective date. These are proposed to be: • the regulatory investment test for distribution application guidelines made by the AER under clause 5.17.2; • the connection charge guidelines made by the AER under clause 5A.E.3; • the Distribution Service Classification Guidelines; • the Asset Exemption Guidelines; • the Cost Allocation Guidelines; • the Distribution Ring-Fencing Guidelines; • Distribution Reliability Measures Guidelines; • the Forecasting Best Practice Guidelines made by the AER under clause 4A.B.5; • the Contracts and Firmness Guidelines made by the AER in accordance with clause 4A.E.8; • the Reliability Compliance Procedures and Guidelines (as defined in the National Electricity Law); and • the MLO Guidelines made by the AER under clause 4A.G.25.
Industry engagement obligations	Where a jurisdiction opts a DNSP's network into the new arrangements, the DNSP will need to review its demand side engagement document (now the industry engagement documents) and make its initial SAPS customer engagement strategy and initial SAPS customer engagement document. It is proposed that the DNSP will have at least 6 months after the opt-in legislation is made (but with no extension if the opt-in comes into effect some time after it is made) and that the earliest compliance date will be when the opt-in comes into effect.
National Energy Retail Rules	
Clause 3	It is proposed to specify that the temporary unavailability or temporary curtailment of the supply of energy to a customer's premises to implement a regulated SAPS conversion is an interruption for the purpose of the Rules and the Law (and not a de-energisation or disconnection). The provisions in the NERR dealing with interruptions, such as notice requirements, will apply.
Clause 88	The definition of distributor planned interruption will be extended to include an interruption for conversion to a regulated SAPS.

Source: AEMC