



Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula

Draft Report

May 2017

Request for submissions

The Essential Services Commission (**Commission**) invites written submissions on this paper by **Friday, 18 August 2017**.

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Responses to this paper should be directed to: **Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula**.

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Glossary of terms

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	Essential Services Commission, established under the Essential Services Commission Act 2002
DER	Distributed energy resources
ElectraNet	ElectraNet
IEEE	Institute of Electrical and Electronics Engineers
kV	Kilovolt
MEDs	Major Event Days, a measure used to remove the impacts of severe weather events from reliability performance data
NER	National Electricity Rules
OTR	Office of the Technical Regulator
SCADA	Supervisory control and data acquisition
USAIDI	Unplanned System Average Interruption Duration Index
USAIFI	Unplanned System Average Interruption Frequency Index
VCR	Value of customer reliability

1 Executive Summary

The Essential Services Commission (**Commission**) is undertaking an inquiry into the reliability and quality of electricity supply on the Eyre Peninsula (**Inquiry**). The Inquiry was referred to the Commission by the South Australian Treasurer on 9 March 2017, pursuant to Part 7 of the Essential Services Commission Act 2002.

The Inquiry was initiated following concerns raised by Eyre Peninsula community members about the customer impacts arising from the level of reliability and quality of supply in the region.

This Draft Report sets out the Commission's draft findings and draft recommendations for the Inquiry, which have been informed by stakeholder consultation on the Eyre Peninsula and elsewhere. The Commission invites written submissions to this Draft Report, which should be provided by Friday, 18 August 2017.

The Commission has identified various technical options that would improve the reliability and quality of supply on the Eyre Peninsula. Some of those options, particularly certain generation options, could deliver reliability benefits that exceed the implementation costs. There are also opportunities to improve the regulatory framework to provide better processes for system planning and coordination of network and non-network activities. This is especially important given the technological changes that are currently occurring in the electricity industry.

1.1 Reliability and quality of supply performance on the Eyre Peninsula

Reliability of electricity supply on the Eyre Peninsula was generally consistent between 2006-07 and 2015-16. There has been a significant deterioration in performance during 2016-17, due to the severe weather events on 9 September 2016, 28 September 2016 and 23 December 2016.

Regions supplied by long, radial distribution feeders (remote from the transmission network) typically receive the greatest total minutes off supply, and include regions near Elliston, Penong and Cowell.

Data on historical reliability performance on the Eyre Peninsula confirms that there are two different reliability problems that could be addressed:

- ▶ There are ongoing reliability problems at the distribution feeder level, which are driven mainly by lightning strikes on radial distribution lines affecting local supplies.
- ▶ More recent reliability problems are driven by severe weather events that mainly impacted transmission services affecting large parts of the peninsula.

Survey evidence suggests that customers on the Eyre Peninsula are used to experiencing reliability problems and some have become conditioned to power outages. For those customers that are dependent on a reliable power supply (for example, hospitals and supermarkets), some have installed their own back-up generators. Representations from customers suggest that, during the 28 September 2016 statewide blackout, the greatest concern of customers was the loss of telecommunications services, which is dependent on electricity.

There is anecdotal evidence of poor quality of supply (voltage variations) in parts of the Eyre Peninsula, although complaints data suggests there are few problems. SA Power Networks has reported that, during the 2006-07 to 2016-17 period, there have been 209 quality of supply enquiries and only nine complaints. There have been 12 proactive load and voltage tests by SA Power Networks over the 10 year period, with nine requiring rectification at the distribution transformer level. The Energy and Water Industry Ombudsman SA has reported that it has received 20 cases from 8 March 2014 to 8 March 2017 relating to quality of supply on the Eyre Peninsula.

To determine whether or not there is a systemic quality of supply problem, the Commission has requested that SA Power Networks install voltage testing equipment at particular locations on the Eyre Peninsula, commencing in May 2017. The Commission is working with SA Power Networks and councils on the Eyre Peninsula to implement those tests. The Office of the Technical Regulator will provide independent oversight of that process.

1.2 Options for improving reliability of supply

The Commission has consulted with electricity industry participants to identify options for improving reliability of supply on the Eyre Peninsula. Options have been sought from SA Power Networks, ElectraNet and Eye Energy, a Port Lincoln-based provider of photovoltaic generators and batteries.

The options provided by ElectraNet are the subject of a separate consultation process as part of a Regulatory Investment Test under the National Electricity Rules (NER). The conductors of the existing transmission system from Cultana to Port Lincoln are due for replacement and ElectraNet's network support contract with Synergen Power at Port Lincoln is due to expire in December 2018. ElectraNet has identified various options for upgrading the line, which it states will achieve, or in some cases exceed, the transmission reliability standards that it must achieve under the Electricity Transmission Code. It has also stated that other benefits may arise from the options, including optionality benefits, expected to arise from relieving the current output constraints on existing Eyre Peninsula wind farms, as well as facilitating additional wind generation and the connection of new mining loads.

Evaluation of the full benefits of ElectraNet's options, including non-reliability benefits, is beyond the scope of this Inquiry and are to be addressed in the Regulatory Investment Test process that ElectraNet has recently commenced.

SA Power Networks has proposed options involving hardening of the distribution network (creating greater lightning protection), upgrading protection and communications equipment associated with sub-transmission networks to allow the existing Port Lincoln generators to supply the west coast, installation of new generators and installation of reclosers and supervisory control and data acquisition (SCADA) equipment. The generation options, which would back up the transmission network, appear to deliver the greatest reliability benefits, although a targeted program of hardening the distribution network is also likely to be a means of improving reliability to those towns with relatively low reliability levels.

Eye Energy has provided the Commission with information on two commercial projects that it is intending to implement: large-scale solar PV in Cleve and Wudinna (with options for batteries) and a 'smart mini-grid' for the tuna industry in Port Lincoln. Both options would be privately funded and would not require an increase in network tariffs. Investors would rely on wholesale market and ancillary market payments for revenue streams. Therefore, the commercial risks of the projects would not be faced by customers, who would only pay for the market services provided by those options as they are delivered.

The technical options considered by the Commission are inter-related; the implementation of one project is likely to affect the viability of others. The options have also been evaluated relative to a base case, which reflects the current electricity supply arrangements on the Eyre Peninsula. While there is the potential for new demand, for example through mining developments such as the Iron Road project, the implications of those new developments on electricity supply options has not been factored into the Commission's analysis. Likewise, any unconfirmed new supply sources (for example, potential co-generation at the Whyalla steelworks), has not been reflected in the analysis. Those possible future developments may, however, have a significant impact on the future electricity supply requirements for the Eyre Peninsula.

1.3 Improving the incentives for prudent and efficient levels of reliability and quality of supply

The Commission has also considered if there are any impediments in the NER or the Commission's regulatory framework to promoting appropriate levels of reliability and quality of supply to customers on the Eyre Peninsula. In relation to those matters, the Commission's draft findings are:

- ▶ The current feeder-type reliability standards in the Electricity Distribution Code may not provide the right incentives to SA Power Networks to maintain or improve reliability. The reliability standards are set on a feeder-type basis rather than a locational basis and reliability performance in certain regions may be 'hidden' in aggregated performance data. This is a matter that will be considered by the Commission in its upcoming review of SA Power Networks' reliability standards to apply from 1 July 2020.
- ▶ While the NER require transmission and distribution businesses to undertake joint planning, the split responsibilities along the electricity supply chain may not always align to deliver the best possible outcomes for customers, in comparison to a single overall responsibility. In addition, the electricity supply chain is no longer linear, due to changes in technology (for example, consumers can also be generators). The previously clear distinction between monopoly and contestable services is becoming blurred, with the emergence of distributed generation and mini-grids, which may compete with incumbent network businesses. In the case of the Eyre Peninsula, where new technologies and new business models are emerging, more effective joint planning, with some independence in the joint planning process, may lead to better customer outcomes than the current approach. Recent changes to joint planning frameworks internationally may provide a useful reference point for South Australia.

2 Introduction

2.1 Referral of Inquiry

On 9 March 2017, the South Australian Treasurer referred to the Essential Services Commission (**Commission**) an Inquiry into the reliability and quality of electricity supply on Eyre Peninsula (**Inquiry**). The Inquiry was referred to the Commission pursuant to Part 7 of the Essential Services Commission Act 2002.

The Treasurer's letter of referral, provided in Appendix A, outlines the terms of reference of the Inquiry. The terms of reference require the Commission to examine prudent and efficient options for improving the reliability and quality of electricity supply to electricity customers on the Eyre Peninsula. It also requires the Commission to consider the following matters:

- ▶ electricity reliability and quality of supply outcomes for customers on the Eyre Peninsula during the period 1 January 2007 to 31 December 2016
- ▶ prudent and efficient options for improving the incentives to ElectraNet and SA Power Networks to upgrade current network infrastructure and restore supply following an outage
- ▶ possible technical solutions for improving reliability and quality of electricity supply on the Eyre Peninsula and potential costs to consumers of implementing those solutions, and
- ▶ any other matters that the Commission considers relevant to the Inquiry

The terms of reference set out certain procedural matters that the Commission must follow. In particular, it must:

- ▶ establish and have regard to advice from an Inquiry reference group, consisting of representatives of Eyre Peninsula councils and other representatives as considered appropriate by the Commission
- ▶ have regard to advice from the Office of the Technical Regulator (**OTR**) on matters relating to the quality of electricity supply to customers on the Eyre Peninsula
- ▶ conduct public consultation, in a manner considered appropriate by the Commission
- ▶ submit a draft report on the Inquiry to the Treasurer by 31 May 2017, and
- ▶ submit a final report on the Inquiry to the Treasurer by 6 October 2017.

2.2 Electricity supply on the Eyre Peninsula

The Eyre Peninsula has an area of approximately 233,000 square kilometres with a population of around 56,000.¹ It has around 24,000 electricity customers, with over 10,000 of those customers located at Port Lincoln. Whyalla and Port Lincoln are the major load centres, accounting for around 85 percent of the total maximum demand on the Eyre Peninsula. Electricity supply is important for the regional economy, which is driven mainly by the agriculture, manufacturing, fishing, tourism and mining industries.

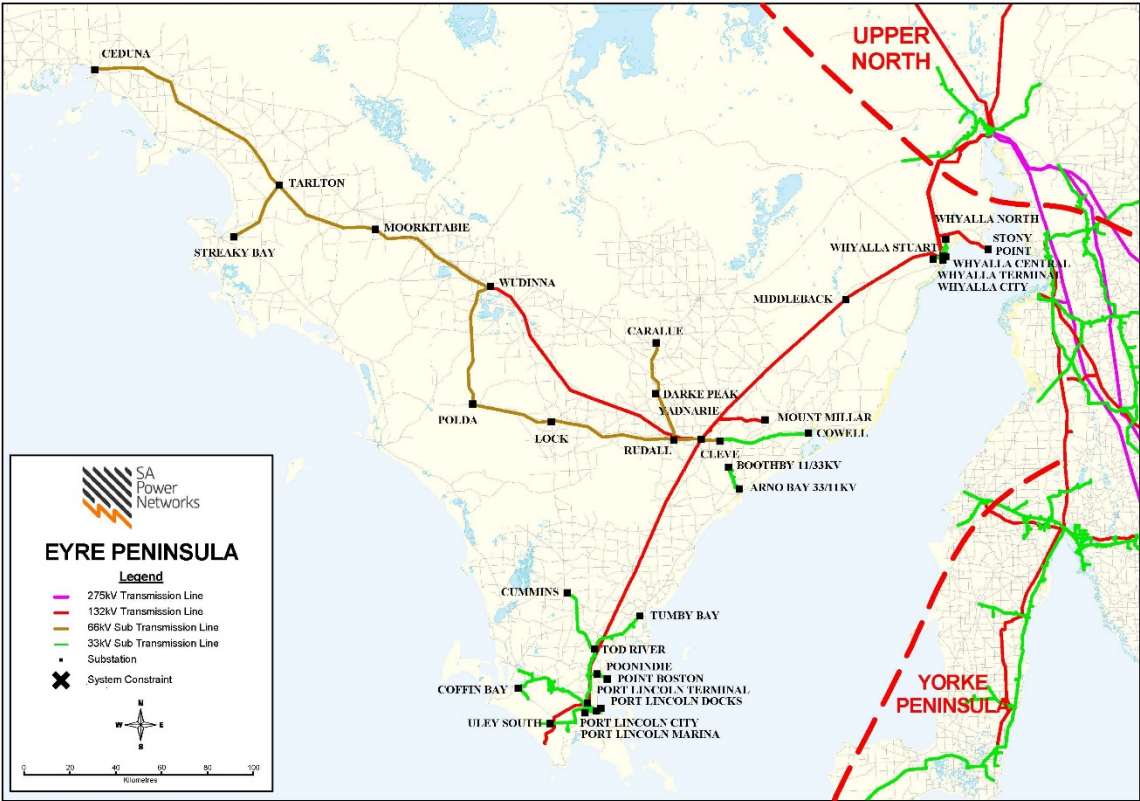
¹ Regional Development Australia, *Regional Profile 2014-2016 – RDA Whyalla and Eyre Peninsula*, September 2014, page 6, available at <http://www.rdawep.org.au/wp-content/uploads/2016/02/RDAWEP-REGIONAL-PROFILE-2014-16-September-2014.pdf>.

The region is supplied electricity via 275k/132kV substations at Davenport and Cultana. ElectraNet operates the 132kV transmission lines from Cultana to Port Lincoln, intersected by another 132kV transmission line from Yadnarie to Wudinna. ElectraNet has a network support arrangement in place with Synergen Power Pty Ltd, who operates three back-up generators at Port Lincoln capable of supplying 73MW in total. That network support contract is due to expire in December 2018.

SA Power Networks operates the 66kV and 33kV sub-transmission networks and 11kV primary distribution feeders. Some customers are also supplied via 19kV single wire earth return (SWER) systems. The networks operated by SA Power Networks cover the region south of Whyalla and west to Ceduna.

The transmission and distribution networks on the Eyre Peninsula are shown in Figure 2.1.

Figure 2.1: Transmission and distribution networks on the Eyre Peninsula



Source: SA Power Networks

There is also significant wind-powered generation capacity on the Eyre Peninsula, including the 66MW Cathedral Rocks wind farm south of Port Lincoln (operational since 2005) and the 70MW wind farm at Mt Millar near Cowell (operational since 2006). The commencement of construction of large-scale solar and wind farms near Port Augusta in 2017 will further diversify the sources of electricity supply to the region.²

² Further information about the project is available at <http://dpenergy.info/parep/>.

2.3 Inquiry process

In accordance with the Inquiry's terms of reference, the Commission has consulted with a reference group consisting of representatives of Eyre Peninsula councils. The Commission met with that group on 27 February 2017, to discuss the scope of the Inquiry and to hear the views of councils. Those views are discussed in Chapter 3.

The Commission has consulted with staff of the Australian Energy Regulator (**AER**) and the OTR on regulatory and technical matters and has worked closely with industry participants to ensure that it has a clear understanding of electricity supply concerns on the Eyre Peninsula and options for addressing them. In particular, the Commission would like to thank SA Power Networks, ElectraNet and Eye Energy for contributing information and technical options to the Commission for this Inquiry.

Based on the information and evidence obtained, the Commission has developed the draft findings and recommendations set out in this Draft Report. The Commission is now consulting on this Draft Report, with written submissions to be received by Friday, 18 August 2017. Further information about making a submission is contained on the inside of the front cover of this Draft Report.

In addition to seeking written submissions, the Commission will be engaging directly with key stakeholders during the period of consultation on this Draft Report, including the Inquiry's Reference Group.

3 Reliability and quality of supply on the Eyre Peninsula

Draft findings

1. Reliability of electricity supply on the Eyre Peninsula was relatively stable between 2006-07 and 2015-16. There has, however, been a significant deterioration in reliability performance during 2016-17, due to the severe weather events on 9 September 2016, 28 September 2016 and 23 December 2016.
2. Over the previous 10 years, regions supplied by long, radial distribution feeders (remote from the transmission network) have received the greatest total minutes off supply, including regions near Elliston, Penong and Cowell.
3. Customers on the Eyre Peninsula and the Inquiry reference group have indicated that there are areas where the voltage of electricity delivered to customers may be outside of regulatory requirements and is affecting the operation of customers' equipment. However, SA Power Networks and the Energy and Water Ombudsman of SA (**EWOSA**) have received very few complaints relating to quality of supply on the Eyre Peninsula. Further evidence is required to determine whether or not there is a systemic quality of supply problem on the Eyre Peninsula. That evidence is currently being obtained through voltage testing being conducted by SA Power Networks.

Draft recommendation

The results of voltage testing being conducted by SA Power Network, with oversight of the OTR, should be assessed before considering the need for any technical solutions to improve the quality of electricity supply on the Eyre Peninsula.

3.1 Reliability outcomes on the Eyre Peninsula

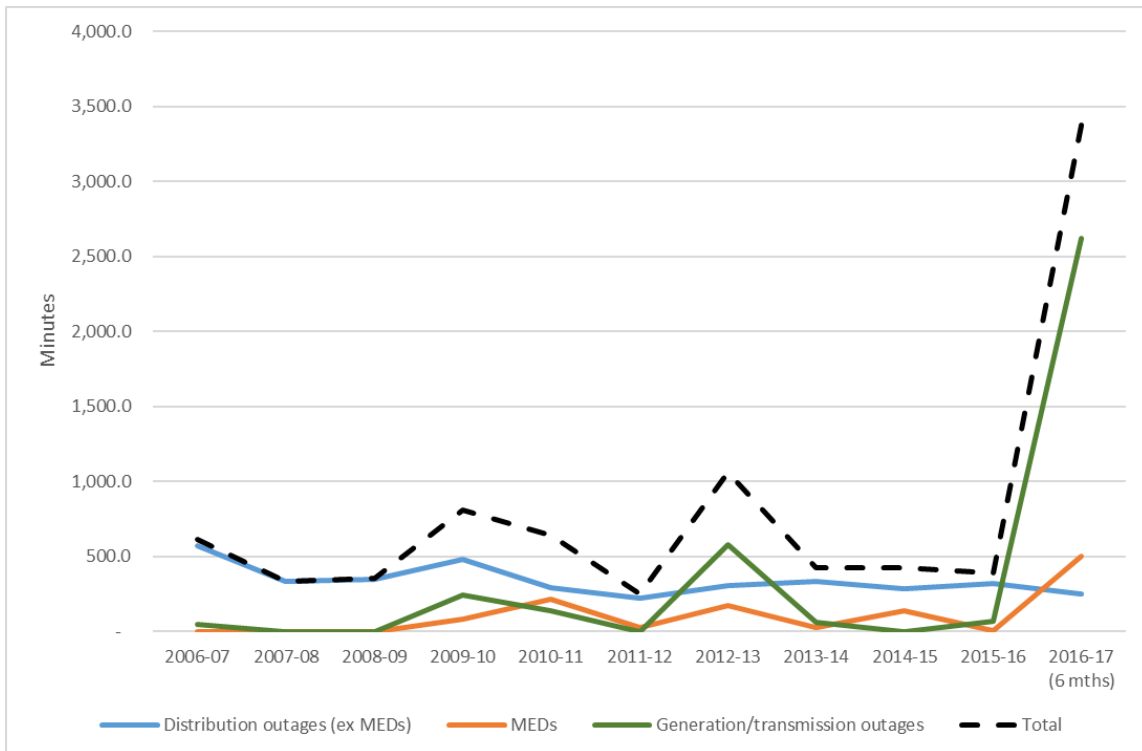
The Commission has obtained data from SA Power Networks, which shows that the reliability of electricity supply on the Eyre Peninsula has deteriorated significantly in the first half of 2016-17, relative to the previous 10 years.

Figure 3.1 shows the historical performance, as measured by the Unplanned System Average Interruption Duration Index (**USAIDI**). The USAIDI measure captures the average annual duration of unplanned interruptions experienced by customers. The USAIDI measure is broken down between interruptions attributable to generation and transmission outages, distribution outages caused by severe weather events (major event days, or **MEDs**)³ and distribution outages excluding the impact of MEDs. Based on data provided by SA Power Networks, the most common cause of distribution network outages on the Eyre Peninsula is lightning strikes.

Between 1 July 2016 and 31 December 2016, USAIDI has been nearly 3,400 minutes, of which generation/transmission outages comprised slightly more than 2,600 minutes. Average USAIDI over the previous 10 years was around 530 minutes per annum, with an average of 400 minutes per annum over the last three years.

³ The Commission uses MEDs to set distribution reliability standards under the Electricity Distribution Code and measure normalised distribution network performance. MEDs are defined under the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366-2012

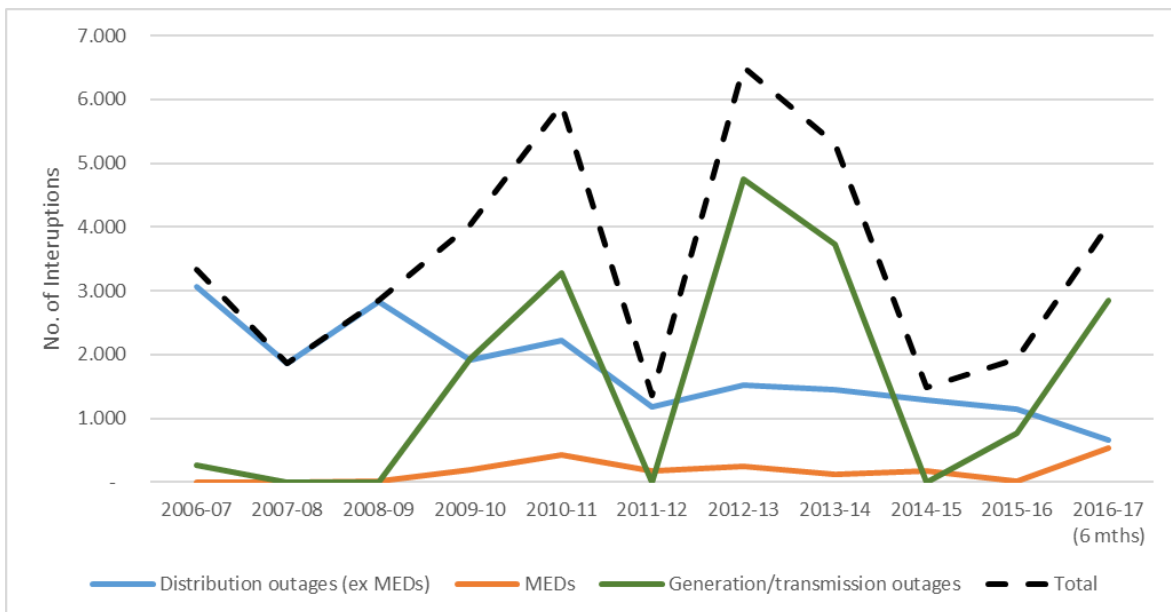
Figure 3.1: Eyre Peninsula USAIDI 2006-07 – 2016-17



Source: SA Power Networks

The frequency of unplanned interruptions on the Eyre Peninsula is measured by the Unplanned System Average Interruption Frequency Index (USAIFI). Figure 3.2 shows that USAIFI in the region has ranged between around 1.5 and 6.5 interruptions per annum, with average interruptions per customer per annum of approximately 3.5. The severe weather events in the first half of 2016-17 has not impacted USAIFI, whereas the length of the interruptions has significantly impacted USAIDI.

Figure 3.2: Eyre Peninsula USAIFI 2006-07 – 2016-17

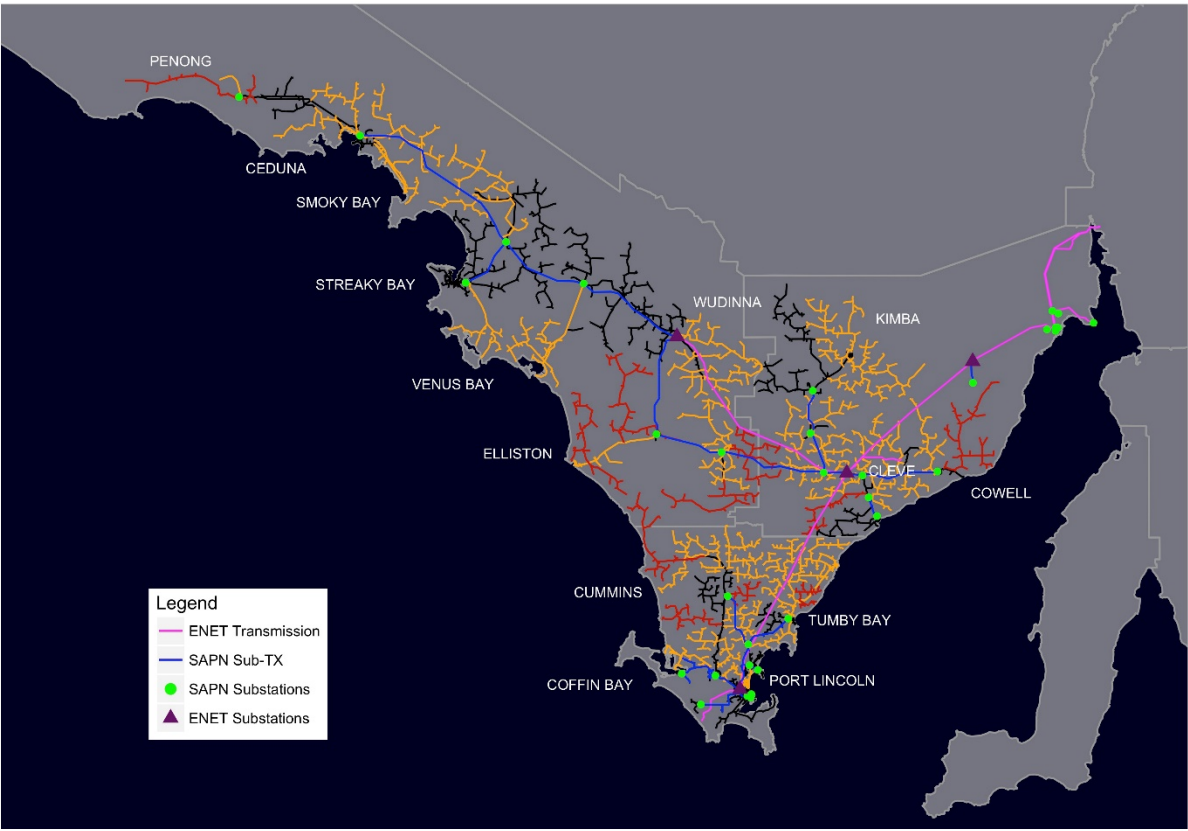


Source: SA Power Networks

Figure 3.1 and Figure 3.2 above show that the frequency and duration of distribution outages (excluding MEDs) has trended downwards over the past 10 years, indicating that the underlying performance of the distribution network has improved over time. However, this does not reflect the experience of customers who are impacted by power interruptions that are caused by severe weather events.

Figure 3.3 shows the differences in reliability performance, as measured by USAIDI, across different areas of the Eyre Peninsula over the past 10 years. The performance includes the impact of severe weather events (MEDs) and includes the impact of generation and transmission interruptions. The feeders shown in black have experienced reliability performance better or near the average for the region. Those in orange have experienced mixed performance over the period and those in red have experienced relatively poor performance over the period, relative to the rest of the region.

Figure 3.3: Distribution Feeder Reliability Performance 2006-07 – 2015-16 (USAIDI outcomes, including MEDs and transmission outages)



Source: SA Power Networks

The data in Figure 3.3 reflects feeder reliability performance and is not weighted by customer numbers on each feeder. Table 3.1 below shows the proportion of customers on each category of feeder and it is noted that only 4 percent of customers on the Eyre Peninsula are supplied by the red feeders.

Table 3.1: Proportion of customers on feeders classified by reliability

	Black (%)	Yellow (%)	Red (%)
Customers	74	22	4
HV feeder (by length)	32	53	15

Figure 3.3 shows that feeders that are close to the transmission and sub-transmission networks generally receive better reliability outcomes than the long, radial distribution feeders that are remote from the transmission network. Regions that have received the greatest average minutes off supply include those near Elliston, Penong and Cowell.

Potential technical options for addressing those reliability of supply problems are discussed in Chapter 4.

3.2 Concerns raised by customers

The Commission has consulted with the Inquiry reference group, to understand Eyre Peninsula customers' perception of reliability and quality of supply.

The reference group stated that, for many customers on the Eyre Peninsula, electricity supply outages had become a part of life and customers had become conditioned to them. This was confirmed by the results of an Eyre Peninsula customer survey conducted by Regional Development Australia (Whyalla and Eyre Peninsula) following the 28 September 2016 statewide blackout. In that survey, 85 percent of the 320 customers surveyed stated that they had received a power outage (additional to the 28 September 2016 outage) in the previous 12 months. Many business customers were becoming prepared for regular power outages, with 35 percent of business respondents stating that they owned/maintained back-up power generators.

A key message from the customer survey, reinforced by the reference group, was that customers' greatest area of frustration during the 28 September 2016 outage was the lack of telecommunications access. The reference group also stated that some customers were concerned with quality of supply problems, which were blamed for damage to customers' equipment.

While there is anecdotal evidence of poor quality of supply (voltage variations) in parts of the Eyre Peninsula, complaints data suggests there are few problems. SA Power Networks has reported that, during the 2006-07 to 2016-17 period, there have been 209 quality of supply enquiries and only nine complaints. There have been 12 proactive load and voltage tests by SA Power Networks over the 10 year period, with nine requiring rectification at the distribution transformer level. EWOSA has reported that it has received 20 cases from 8 March 2014 to 8 March 2017 relating to quality of supply on the Eyre Peninsula.⁴

To determine the extent to which there is a quality of supply problem on the Eyre Peninsula, the Commission has requested that SA Power Networks install voltage testing equipment at particular locations on the Eyre Peninsula. The Commission is working with SA Power Networks and councils on the Eyre Peninsula to implement those tests over the coming months. The OTR will provide independent oversight of that process. Following the tests, the Commission will make a recommendation on options for improving any identified quality of supply problems in the region.

⁴ EWOSA has advised that its categorisation of quality of supply complaints may not correlate with SA Power Networks' definition of a quality of supply complaint, which may partly explain the difference in the number of complaints reported by both organisations.

4 Options for improving reliability of supply

Draft finding

Generation options proposed by SA Power Networks are likely to deliver significant reliability benefits to consumers on the Eyre Peninsula. A targeted program of hardening the distribution network through reinsulation and SCADA roll-out may also be a low-cost means of improving reliability to those towns with relatively low reliability levels.

Draft recommendation

The Commission will consider those options that produce cost effective reliability improvements in its upcoming review of the reliability standards under the Electricity Distribution Code. Where an option can be demonstrated to deliver net benefits, the relevant network business may also propose that option to the AER under its revenue reset application or Regulatory Investment Test.

Based on the analysis of network reliability discussed in the previous chapter, there are two distinct aspects of performance that could be addressed through technical solutions.

1. There are ongoing reliability problems at the distribution level, which are driven mainly by lightning strikes on radial distribution lines affecting local supplies. Technical solutions that provide an alternative source of supply to a feeder, or can improve the ability of an existing feeder to withstand lightning strikes, may address that problem. Customer-owned backup generation can also address that problem, as evidenced by the significant proportion of business customers with on-site generation.
2. More recent reliability problems have been driven by severe weather events that mainly impacted transmission services affecting large parts of the peninsula. Greater diversity of supply sources (geographically) may address that problem.

To identify potential technical solutions, the Commission has consulted with SA Power Networks, ElectraNet and Eye Energy, a Port Lincoln-based provider of solar PV generators and batteries. Eye Energy is currently working with the tuna industry in Port Lincoln to develop power solutions and is considering other, similar, projects in the Eyre Peninsula.

The Commission has sought to identify possible network and non-network solutions, to provide a range of options for consideration.

The costs and reliability benefits of each option have been separately assessed by the Commission. The Commission has not attempted to conduct a detailed review of the efficiency of each option, due to the timeframes available. Nor has it identified any non-reliability benefits that might arise from each option. There is a separate regulatory process for determining the efficiency of network and network support projects and identifying all market benefits. In that process, the AER can scrutinise all forecast capital and operating costs as part of a network business' five-year revenue determination or through a Regulatory Investment Test for distribution or transmission expenditure. Those are the proper mechanisms for reviewing the full costs and benefits of projects discussed in this Draft Report, should they be proposed.

To assess the costs and reliability benefits of the options, the Commission has developed a base case, which reflects the current electricity supply arrangements on the Eyre Peninsula. The continued availability of the Synergen-operated generators at Port Lincoln is part of that base case.

The analysis assumes zero load growth on the Eyre Peninsula. While there is the possibility of new demand, for example through mining developments such as the Iron Road project, the implications of those new developments on electricity supply options has not been factored into the Commission's

analysis. Those developments may, however, have a significant impact on the future electricity supply requirements for the Eyre Peninsula. Development approval of the Iron Road magnetite project was announced on 3 May 2017, and that project alone is expected to add 350MW to the existing 120MW of demand on the Eyre Peninsula (which includes demand in the Whyalla region). However, the project is still unconfirmed and is therefore excluded from the Commission’s analysis. Likewise, any unconfirmed new supply sources (eg potential co-generation at the Whyalla steelworks), has not been reflected in the analysis.

4.1 Options proposed by ElectraNet

ElectraNet has provided the Commission with five transmission network reliability improvement options. Those options are currently going through a separate public consultation process, as part of a Regulatory Investment Test under the NER.⁵

ElectraNet has identified the need for capital expenditure on the Eyre Peninsula transmission network, due to deterioration of the conductor on the 132kV Cultana to Port Lincoln line. It is also reviewing options for providing N-1 reliability to Port Lincoln as required in the Electricity Transmission Code, as the existing network support contract with Synergen for the stand-by generators at Port Lincoln is due to expire in December 2018.

The options identified by ElectraNet are all aimed at achieving the reliability standards set out in the Electricity Transmission Code. ElectraNet has indicated that some of the options may deliver reliability of supply at certain connection points that is better than that required under the Electricity Transmission Code.

The options identified by ElectraNet are set out in Table 4.1.

Table 4.1: ElectraNet’s transmission reliability options

Option	Overview
Option 1 – Continue network support at Port Lincoln and component replacement works on the existing 132 kV single-circuit transmission line	Continue network support contract for services combined with 132 kV line replacement works
Option 2 – Double circuit 132 kV line	Construction of a new double circuit 132 kV transmission line following a Cultana to Yadnarie and Yadnarie to Port Lincoln route
Option 3 – two single circuit 132 kV lines	Construction of two single circuit 132 kV transmission lines following separated routes between Cultana and Port Lincoln
Option 4 – double circuit 275 kV line	Construction of a double circuit 275 kV transmission line following a Cultana to Yadnarie and Yadnarie to Port Lincoln route
Option 5 – two single circuit 275 kV lines	Construction of two single circuit 275 kV transmission lines following separated routes between Cultana and Port Lincoln

⁵ ElectraNet, *Eyre Peninsula Electricity Supply Options, RIT-T Project Specification Consultation Report*, April 2017 (available at <https://www.electranet.com.au/wp-content/uploads/2017/04/20170428-Report-EyrePeninsulaElectricitySupplyOptionsPSCR.pdf>).

The conductors of the existing transmission system from Cultana to Port Lincoln are due for replacement and the network support contract with Synergen Power at Port Lincoln is due to expire in December 2018. ElectraNet has identified various options for upgrading the line, which it states will achieve, or in some cases exceed, the transmission reliability standards that it must achieve under the Electricity Transmission Code. It has also stated that other benefits may arise from the options, including benefits expected to arise from relieving the current output constraints on existing Eyre Peninsula wind farms, as well as option benefits through facilitating additional wind generation and the connection of new mining loads.

Evaluation of the full benefits of ElectraNet’s options, including non-reliability benefits, is beyond the scope of this Inquiry and are to be addressed in the Regulatory Investment Test process that ElectraNet has recently commenced.

4.2 Options proposed by SA Power Network

SA Power Networks has proposed options involving hardening of the distribution network (improved lightning protection), upgrading protection and communications equipment associated with sub-transmission networks to allow the existing Port Lincoln generators to supply the west coast of the Eyre Peninsula, installation of new generators and installation of reclosers⁶ and supervisory control and data acquisition (SCADA) equipment. The generation options appear to deliver the greatest reliability benefits as they provide backup to the transmission network, although a targeted program of hardening the distribution network is also likely to be a means of improving reliability to those towns with relatively low reliability levels.

4.2.1 Distribution network hardening options

SA Power Networks has proposed three network hardening options, as set out in Table 4.2. The options involve the same technical solution (reinsulation of distribution feeders), but rolled out at different scales.

Table 4.2: SA Power Networks’ network hardening options

Option	Overview
Option 1 – Harden distribution network against lightning (95 percent of feeders)	Network option to improve reliability to customers on 95 percent of the high voltage distribution feeders on Eyre Peninsula. Reinsulate about 38,000 poles with lightning resistant insulators.
Option 2 – Harden distribution network against lightning (about 48 percent of feeders)	Network option to improve reliability to customers on about 48 percent of the distribution feeders on Eyre Peninsula. Reinsulate about 19,000 poles with lightning resistant insulators. Feeders will be targeted for reinsulating based on greatest benefit to customers (ie reinsulated feeders that will result in the greatest reduction in annual SAIDI, as some feeders have worse reliability and as such a greater contribution to annual SAIDI than other feeders).

⁶ A recloser is a mechanism that allows a circuit breaker to automatically close after it has been opened due to a fault.

Option	Overview
Option 3 – Harden distribution network against lightning (about 25 percent of feeders)	Network option to improve reliability to customers on about 25 percent of the distribution feeders on Eyre Peninsula. Reinsulate about 10,000 poles with lightning resistant insulators. Feeders will be targeted for reinsulating based on greatest benefit to customers (ie reinsulated feeders that will result in the greatest reduction in annual SAIDI, as some feeders have worse reliability performance and as such a greater contribution to annual SAIDI than other feeders).

The net benefit of the hardening options reduces as the scale of the roll-out increases. This is because a smaller roll-out would target the those feeders with the lowest reliability levels. As the scale of the roll-out increases, the marginal benefit of additional reinsulation diminishes.

During the current 2015-2020 regulatory period, SA Power Networks is undertaking a very limited amount of network hardening, which it states is producing reliability benefits to the relevant feeders targeted.

4.2.2 Generation options

SA Power Networks has identified three generation options for the Eyre Peninsula. Those options are described in Table 4.3.

Table 4.3: SA Power Networks' generation options

Option	Overview
Option 1 – Upgrade SA Power Networks' sub-transmission network to enable supply of the far west coast of Eyre Peninsula from Pt Lincoln power station in circumstances when the transmission network north of Yadrarie is interrupted.	<p>This is a network option which will enable the Pt Lincoln power station to supply the central and western Eyre Peninsula via the Yadrarie substation in addition to southern Eyre Peninsula which should be supplied under ElectraNet's existing network support agreement at Pt Lincoln. The option would also involve upgrade of the sub-transmission network's protection and communication systems in support of control and operation of this new network functionality, including installing SCADA to relevant sites (remote monitoring and control/switching to Rudall, Lock and Polda substations). This option would also require ElectraNet commitment to amend/renew its current network support agreement at Pt Lincoln power station, to allow for the supply of energy (per the ElectraNet network support agreement to customers via the upgraded network).</p> <p>In the event of an outage of the Cultana-Yadrarie 132kV line, all customers on the Eyre Peninsula (excluding Whyalla which can be supplied via the Davenport to Cultana transmission line) could be supplied from the Pt Lincoln power station under all demand conditions. Total maximum demand on the Eyre Peninsula (excluding the Whyalla region) is around 50MW which could be met by two of the Port Lincoln generators. For an outage of both the Cultana-Yadrarie 132kV and the Yadrarie-Wudinna 132kV transmission lines customers in the western Eyre Peninsula could be supplied under non-peak demand conditions (ie not under peak load conditions for the western Eyre Peninsula) via the 66kV sub-transmission network between Yadrarie and Wudinna. Improves security of supply for these scenarios</p>

Option	Overview
	<p>(mitigates the risk of loss of transmission line(s) or upstream generation). Annual SAIDI benefit to central and western Eyre Peninsula customers (8,780 customers) of around 1,000 minutes (based on proxy operating conditions experienced over last five years).</p>
<p>Option 2 – Install Generation at Wudinna SS and upgrade 66kV sub-transmission network</p>	<p>This is a network support option involving installation of a standby power station at/near Wudinna 132/66kV substation to supply the central and western Eyre Peninsula (ie excludes any supply to or from southern Eyre Peninsula). This would include an upgrade of the Wudinna SS to enable the injection of the generations output into the 66kV sub-transmission network. The option would also involve upgrade of the 66kV sub-transmission network's protection and communication systems in support of control and operation of this new network functionality including installation of SCADA (ie monitoring and control/switching) to Rudall, Lock, Polda, substations. Note: Supply should be maintained to southern Eyre Peninsula as a result of ElectraNet's network support agreement at Pt Lincoln.</p> <p>Note: In the event of an outage of the three (Cultana-Yadnarie, Yadnarie-Pt Lincoln and Yadnarie-Wudinna) 132kV transmission lines, then there would be constrained supply to central Eyre Peninsula via the Wudinna-Yadnarie 66kV sub-transmission line. Further studies can quantify the extent of work required to remove the constraint. Improves security of supply for these scenarios of loss of transmission line(s) or upstream generation. Annual SAIDI benefit to central and western Eyre Peninsula customers (ie 8,780 customers) of around 1,000 minutes (based on proxy operating conditions experienced over last five years).</p>
<p>Option 3 – Install generation at Wudinna, Ceduna and Streaky Bay substations and upgrade 66kV sub-transmission network as required</p>	<p>This is a network support option involving installation of standby power stations at/near Yadnarie 132/66kV, Ceduna 66/11kV and Streaky bay 66/11kV substations to supply the central and western Eyre Peninsula (ie excludes any supply to or from southern Eyre Peninsula). This would include an upgrade of the Yadnarie, Ceduna and Streaky Bay substations to enable the injection of the generation output into the 66kV sub-transmission network. The option would also involve upgrade of the 66kV sub-transmission network's protection and communication systems in support of control and operation of this new network functionality, including installation of SCADA (ie monitoring and control/switching) to Rudall, Lock, Polda, Ceduna and Streaky Bay substations. Note: Supply should be maintained to southern Eyre Peninsula as a result of ElectraNet's network support agreement at Pt Lincoln.</p> <p>Supply would be maintained to customers in western and central Eyre Peninsula under all demand conditions for an outage of the:</p> <ul style="list-style-type: none"> ▶ Cultana-Yadnarie 132kV transmission line; or ▶ Yadnarie-Wudinna 132kV transmission line. <p>In addition, this option will maintain supply to customers supplied from the Streaky Bay and Ceduna substations (a total of 3,870 customers) for outages of the 66kV sub-transmission network</p>

Option	Overview
	between Wudinna, Ceduna and Streaky Bay. Improves security of supply for these scenarios (ie mitigates the risk of loss of transmission line(s), subtransmission line(s) or upstream generation). Annual SAIDI benefit to western and central Eyre Peninsula customers (ie 8,780 customers) of around 1,150 minutes (based on proxy operating conditions experienced over last five years).

All three of the generation options proposed by SA Power Networks deliver significant reliability benefits to customers. However, as shown in section 4.4 below, generation option 1 has the lowest capital and operating cost (as it utilises the existing Port Lincoln generator and only involves network protection and communication systems upgrades).

4.2.3 SCADA options

SA Power Networks has presented three options involving the upgrading of remote monitoring and control of switches on its high voltage feeders. The options differ only in the scale of implementation. The options are described in Table 4.4.

Table 4.4: SA Power Networks' SCADA options

Option	Overview
Option 1 – Enable remote monitoring and control on all high voltage feeders on Eyre Peninsula	<p>This is a distribution network option. Upgrade all reclosers and mid-line sectionalisers and install remote monitoring and control to these devices. Install/upgrade switches (ie reclosers and sectionalisers) on existing non-SCADA source and mid-line reclosers and SWER sectionalisers to SCADA controlled “fuse saver” devices.</p> <p>Any interruption affecting these devices will be immediately reported via SCADA (ie customers won't need to contact SA Power Networks to report outages of whole or part feeders). Also, reduces need for restoration crews to physically check switch status and travel to manually operate switches. The installation of these devices will enable quicker response times to customers who experience outages and reduce outage times by up to 60 minutes (eg don't have to travel to manually operate a switch, as it will be operated remotely). Annual SAIDI benefit to Eyre Peninsula Customers (ie 23,870 customers) is 23 minutes (modelled estimate).</p>
Option 2 – Enable remote monitoring and control of switches on selected high voltage feeders on Eyre Peninsula (235 switches)	<p>This is a distribution network option. Upgrade targeted reclosers and mid-line sectionalisers and install remote monitoring and control to these devices. Install/upgrade switches (ie reclosers and sectionalisers) on existing non-SCADA source and mid-line reclosers and SWER sectionalisers to SCADA controlled “fuse saver” devices. Feeders will be selected on greatest benefit to customers.</p> <p>Any interruption affecting these devices will be immediately reported (ie customers won't need to contact SA Power Networks to report outages of whole or part feeders). Also, reduces need for restoration crews to physically check switch status and travel to manually operate switches. The installation of these devices</p>

Option	Overview
	will enable quicker response times to customers who experience outages and reduce outage times by up to 60 minutes (eg don't have to travel to manually operate a switch, as it will be operated remotely). Annual SAIDI benefit to Eyre Peninsula Customers (ie 23,870 customers) is 21 minutes (modelled estimate).
Option 3 – Enable remote monitoring and control of switches on selected high voltage feeders on Eyre Peninsula (121 switches)	<p>This is a distribution network option. Upgrade targeted reclosers and mid-line sectionalisers and install remote monitoring and control to these devices. Install/upgrade switches (ie reclosers and sectionalisers) on existing non-SCADA source and mid-line reclosers and SWER sectionalisers to SCADA controlled “fuse saver” devices. Feeders will be selected on greatest benefit.</p> <p>Any interruption affecting these devices will be immediately reported (ie customers won't need to contact SA Power Networks to report outages of whole or part feeders). Also, reduces need for restoration crews to physically check switch status and travel to manually operate switches. The installation of these devices will enable quicker response times to customers who experience outages and reduce outage times by up to 60 minutes (eg don't have to travel to manually operate a switch, as it will be able to be operated remotely). Annual SAIDI benefit to Eyre Peninsula Customers (ie 23,870 customers) is 16 minutes (modelled estimate).</p>

While none of the three SCADA options produce significant reliability benefits to customers, the small scale roll-out of SCADA involves the lowest cost to customers. Similar to the network hardening options, the more targeted approaches deliver greater reliability benefits per dollar spent than the wide-scale approaches.

4.3 Options proposed by Eye Energy

Eye Energy submitted two options for improving reliability to customers on the Eyre Peninsula. Both of the options are currently being developed by Eye Energy and its partners on a commercial basis.

4.3.1 Eyre Peninsula Solar PV - Cleve and Wudinna

Eye Energy, in conjunction with Sunpact, is proposing to install large scale embedded solar PV generation within the existing Eyre Peninsula electricity network, with the potential for co-location of battery storage. There are two sites under development - Cleve (10MW solar PV plant) and Wudinna (15MW solar PV plant).

Eye Energy has stated that the installation of embedded generation would reduce reliance on the transmission network to import electricity from more distant generation. It also believes that it will improve power quality in the local network.

The projects would be privately funded, with revenue streams to be earned through wholesale and ancillary markets. Therefore, the commercial risks of the projects would not be borne by customers, who would only pay for the market services provided by those options as they are delivered.

4.3.2 Port Lincoln Tuna industry Solar PV - Smart Mini Grid/Virtual Net Metering

Eye Energy is working with Flextronics to install 2MW distributed solar PV generation within an existing section of the Port Lincoln electricity network (industrial precinct with tuna businesses), with the potential for colocation of battery storage. The virtual net metering arrangement would allow users to share energy, where solar exports from one user could be credited against the consumption of another user. It may free up network capacity for other customers on the Eyre Peninsula.

This project would also be privately funded.

4.4 Summary of costs and reliability benefits of each project

A summary of the reliability benefits (measured as minutes off supply saved) and costs of each option is presented in Table 4.5 below. The table highlights that the reliability benefits are likely to be very significant for the generation options identified by SA Power Networks. The Commission reiterates that there may be other market benefits that arise from each option, in addition to reliability benefits. Those benefits would need to be taken into account in a full cost-benefit analysis.

Table 4.5: Summary of annual reliability improvement (minutes saved) of each option and cost

Proposed by	Option	Minutes saved (p.a.)	Total Cost (p.a.)
SA Power Networks	95 percent Hardening Option 1	122	\$5,300,430
SA Power Networks	48 percent Hardening Option 2	98	\$2,357,500
SA Power Networks	25 percent Hardening Option 3	76	\$1,351,500
SA Power Networks	Generation Option 1 - Pt Lincoln	1,000	\$398,700
SA Power Networks	Generation Option 2 - Wudinna	1,000	\$4,063,500
SA Power Networks	Generation Option 3 - Ceduna, Wudinna, Streaky Bay	1,150	\$5,194,900
SA Power Networks	Feeder SCADA (all) Option 1	23	\$1,136,000
SA Power Networks	Feeder SCADA (partial) Option 2	21	\$757,000
SA Power Networks	Feeder SCADA (worst offenders) Option 3	16	\$379,000
ElectraNet	Replace components of 132kV line	0	\$8,592,000
ElectraNet	Double circuit 132kV line	60	\$15,108,000
ElectraNet	Two single circuit 132kV line	60	\$17,519,000
ElectraNet	Double circuit 275kV line (include lines to Davenport upgrade)	60	\$22,822,000
ElectraNet	Two single circuit 275kV lines (include lines to Davenport)	60	\$36,805,000

5 Regulatory issues

Draft findings

1. The current feeder-type reliability standards in the Electricity Distribution Code may not provide the right incentives to SA Power Networks to maintain/improve reliability. The reliability standards are set on a feeder-type basis and reliability performance in certain regions may be 'hidden' in aggregated performance data.
2. There may be insufficient incentive for distribution and transmission businesses to undertake effective joint planning, as required under the NER, which may not be delivering the most efficient network reliability solutions.

Draft recommendation

There may be benefits in pursuing a change to the NER, to strengthen the requirements for joint planning, including introducing greater independence into the joint planning process.

The Inquiry terms of reference require the Commission to consider options for improving the incentives that SA Power Networks and ElectraNet have to upgrade current network infrastructure and restore supply following an outage.

Network reliability standards that apply to SA Power Networks and ElectraNet are contained in the Electricity Distribution Code and Electricity Transmission Code (respectively). The Commission is responsible for issuing those Codes and enforcing compliance with them. The Commission's role in regulating reliability standards is complemented by the AER's role as economic regulator of SA Power Networks and ElectraNet.

5.1 Regulation of distribution services

The service standard framework that applies under the Electricity Distribution Code consists of two elements:⁷

- ▶ average reliability and customer service standards and targets (set by the Commission), and
- ▶ a Guaranteed Service Level Scheme that provides for payments to customers receiving service levels below pre-determined threshold levels within any single year (set by the Commission)

In addition, the AER has implemented a financial incentive scheme that provides rewards/penalties to SA Power Networks for achievement against reliability and customer service targets (set by the AER).

The efficiency of any forecast expenditure necessary to meet reliability standards is reviewed by the AER as part of SA Power Networks' five-year revenue determination.

In addition, prior to undertaking any major investments, including reliability investments, SA Power Networks must apply to the AER under the Regulatory Investment Test – distribution (RIT-D). The purpose of the RIT-D is to ensure distributors consider all credible options (which may include both network and non-network options) when choosing how to address identified network needs. The preferred option is that option which maximises the economic benefit to all those who produce, consume and transport electricity in the National Electricity Market.

⁷ Further information about the Electricity Distribution Code is available on the Commission's website at <http://www.escosa.sa.gov.au/projects-and-publications/projects/electricity/sa-power-networks-service>.

In identifying a need for network or non-network solutions, the NER requires ElectraNet and SA Power Networks to undertake joint planning, to ensure that the most efficient option is pursued.

5.2 Regulation of transmission services

The Commission's Electricity Transmission Code sets out the transmission network exit point reliability standards that apply to ElectraNet.⁸ The Code contains five reliability categories for exit points on ElectraNet's transmission network and each category has specific reliability and supply restoration standards.

Similar to distribution services, the AER has established a transmission services performance incentive scheme and process for regulatory investment tests for transmission investments (RIT-T).

5.3 Are there potential areas for improvement to the network reliability standards?

The distribution network reliability standards, set by the Commission under the Electricity Distribution Code, require SA Power Networks to use best endeavours to achieve specified USAIDI and USAIFI targets, set on a feeder-type basis (CBD, urban, long rural and short rural). The USAIDI and USAIFI targets for 2015-16 to 2019-20 were set to maintain the average historical levels of service provided by SA Power Networks.⁹ The Commission changed from geographic-based standards to feeder-type standards in 2014 because it considered the characteristic of the feeder to be a greater driver of network performance than physical location and to align with the AER's classification system for its service target performance incentive scheme.

While the intent of the Commission's distribution network reliability standards is to maintain historical reliability levels, it is possible that some customers may receive improved reliability over time, while others receive deteriorating reliability. That possibility arises because reliability performance is measured on average across each relevant type of feeder.

The current feeder-type reliability standards may not provide the right incentives to SA Power Networks to maintain or improve reliability. Reliability performance in certain regions may be 'hidden' in aggregated performance data. For example, there is no specific reliability standard for the Eyre Peninsula, although the Commission reports on reliability performance in the Eyre Peninsula and Upper North.

The Commission plans to revisit the arguments for setting reliability standards on that basis, when it reviews SA Power Networks' reliability standards to apply from 1 July 2020. That review will be conducted in 2017-18 and the Commission will be publicly consulting on its proposals late in 2017.

In relation to transmission reliability standards, the Commission has recently reviewed the transmission network exit point standards to apply from 1 July 2018.¹⁰ The reliability standards that will apply from that date are based on an analysis of the costs and benefits of increasing or decreasing reliability at each exit point, using the 2014 AEMO study into the value of customer reliability.¹¹ The Commission does not propose to change those exit point standards given that recent review. To the extent that

⁸ Further information about the Electricity Transmission Code is available on the Commission's website at <http://www.escosa.sa.gov.au/projects-and-publications/projects/electricity/electricity-transmission-code-review-2018-2023-regulatory-period/electricity-transmission-code-review-2018-2023-regulatory-period>.

⁹ Further information about the current distribution network reliability standards is available on the Commission's website at <http://www.escosa.sa.gov.au/projects-and-publications/projects/electricity/sa-power-networks-service>.

¹⁰ Essential Services Commission, *Electricity Transmission Code Review, Final Decision*, September 2016 (available at <http://www.escosa.sa.gov.au/ArticleDocuments/1020/20160922-Electricity-TransmissionCodeReview-FinalDecision.pdf.aspx?Embed=Y>).

¹¹ AEMO, *Value of customer reliability: Final report*, September 2014 (available at <https://www.aemo.com.au/-/media/Files/PDF/VCR-final-report-PDF-update-27-Nov-14.pdf>).

ElectraNet can identify economic benefits of improving transmission network reliability above the minimum standards set by the Commission, it should make that business case to the AER through its current Eyre Peninsula RiT-T process.

5.4 The need for effective joint planning

In considering the various network and non-network options for improving reliability of supply on the Eyre Peninsula, the Commission has reached a draft finding that the process for ensuring effective joint planning of generation, transmission, distribution and demand is critical for integrating new technologies into the national market.

Under clause 5.14 of the NER, transmission and distribution network businesses must plan jointly. However, networks businesses may not have strong incentives to conduct effective joint planning because joint planning is intended to deliver a more efficient investment than that proposed by any one party, to the overall benefit of consumers. Network businesses may receive a lower return on investments through joint planning, which is not in their commercial interests. The split responsibilities for the electricity supply chain may not always align to deliver the best possible outcomes for customers, in comparison to a single overall responsibility.

In addition, the electricity supply chain is no longer linear, due to changes in technology (for example, consumers can also be generators). The previously clear distinction between monopoly and contestable services is becoming blurred, with the emergence of distributed generation and mini-grids. This also affects the incentives of the incumbent network businesses. In the case of the Eyre Peninsula, where new technologies and new business models are emerging, effective joint planning, including greater independence in the planning process, may lead to better customer outcomes than the current approach.

Recent changes to joint planning frameworks in New York State may provide a useful reference point for South Australia. While there are many examples of alternative electricity network planning arrangements in other countries, the New York State reforms are highly relevant as they were based on promoting greater energy efficiency, increased penetration of renewable energy resources, including wind and solar, and supporting the broader deployment of distributed energy resources (DER).

The reforms require network businesses to work with its grid operator (New York Independent System Operator) and providers of DER, to ensure that the overall power system is developed in a coordinated and efficient manner. In a recent case ruling, the New York Public Service Commission emphasised the need for such joint planning in the current environment:

Extensive integration of the Utilities' planning and operating processes with related processes at the New York Independent System Operator, Inc. (NYISO) will be a fundamental aspect of market animation. That integration must in-turn enable wholesale and retail market mechanisms that recognize and compensate for the benefits of services provided by each type of DER. As a result, many complex and nearly continuous interactions will need to occur among the NYISO, the DSPs, and DER operators. Without effective coordination, the NYISO and the Utilities will not be able to operate the combined resources of the electric system efficiently and reliably.¹²

The reforms address the incentive problems identified above, as it includes the independent grid operator in the joint planning process. This helps promote greater alignment of the planning process with the overall interests of consumers.

¹² State of New York Public Service Commission, *Case 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision. Case 16-M-0411 - In the Matter of Distributed System Implementation Plans. Order on Distributed System Implementation Plan Filings (Issued and Effective March 9, 2017)*, page 7, (available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bF67F8860-0BD8-4D0F-80E7-A8F10563BBA2%7d>).

Appendix A: Treasurer's letter of referral

The Hon Tom Koutsantonis MP
Member for West Torrens



**Government
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MMRE17D00369

Mr Adam Wilson
Chief Executive Officer
Essential Services Commission of South Australia
GPO Box 2605
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Dear Mr Wilson

Adam

I am writing to formally refer an Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula to the Essential Services Commission of South Australia (ESCOSA). Set out in this written notice are my referral, terms of reference and requirements for the Inquiry.

As you are aware, electricity customers on the Eyre Peninsula have recently been affected by a number of prolonged power outages, and have expressed concern about the reliability and quality of their electricity supply. I share their concern and look forward to the results of your Inquiry.

Referral

I, Tom Koutsantonis, Minister for Mineral Resources and Energy, refer to the Commission the matter described in paragraph (a) of the Terms of Reference, including consideration of those matters in paragraph (b) of the Terms of Reference, and subject to the Requirements set out in this Notice.

Terms of Reference

The following are the Terms of Reference for the Inquiry:

- a) The Commission is to inquire into prudent and efficient options for improving the reliability and quality of electricity supply to electricity customers on the Eyre Peninsula.
- b) The Commission is to consider, in particular, the following matters:
 - i. Electricity reliability and quality of supply outcomes to customers on the Eyre Peninsula during the period 1 January 2007 to 31 December 2016.
 - ii. Prudent and efficient options for improving the incentives to ElectraNet and SA Power Networks, to upgrade current network infrastructure and restore supply following an outage.
 - iii. Possible technical solutions for improving reliability and quality of electricity supply on the Eyre Peninsula and potential costs to consumers of implementing those solutions.



iv. Any other matters that the Commission considers relevant to the Inquiry.

Requirements for the Inquiry

In undertaking the Inquiry, the Commission must:

- a) Establish and have regard to advice from an Inquiry reference group, consisting of representatives of Eyre Peninsula councils and other representatives as considered appropriate by the Commission.
- b) Have regard to advice from the Technical Regulator on matters relating to the quality of electricity supply to customers on the Eyre Peninsula.
- c) Conduct public consultation, in a manner considered appropriate by the Commission.
- d) Submit a draft report on the Inquiry to me by 31 May 2017.
- e) Submit a final report on the Inquiry to me by 6 October 2017.

I look forward to the results of your Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula.

Yours sincerely


Hon Tom Koutsantonis MP
Minister for Mineral Resources and Energy

9 March 2017



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