



SA Power Networks Regulatory Performance Report 2018-19

Key messages

- ▶ In 2018-19, SA Power Networks met the customer service standards for telephone and written responses.
- ▶ SA Power Networks met all eight of the reliability service standards. In doing so, it did not meet the service standard target for duration of interruptions for the rural long feeder category.
- ▶ For the rural long feeder category, SA Power Networks reported 333 minutes per customer in 2018-19 compared to the service standard target of 300 minutes per customer per year. However, SA Power Networks has supplied sufficient information for the Commission to assess that it applied its best endeavours to meet the target and so is considered to have met the service standard.
- ▶ There were 28,474 Guaranteed Service Level (GSL) payments made totalling \$4.32 million. Over ninety percent of GSL payments were associated with the extended duration of interruptions.

The Essential Services Commission (**Commission**) regulates the customer service and reliability aspects of SA Power Networks' electricity distribution operations. SA Power Networks is the monopoly service provider of electricity distribution network services to the majority of South Australian customers.

The Commission does not regulate revenue requirements for SA Power Networks because that is done separately by the Australian Energy Regulator (**AER**). The AER takes into account the Commission's service standards when making regulatory (revenue) determinations for SA Power Networks under the National Electricity Rules.

The Commission establishes certain state-based customer service and reliability standards for SA Power Networks. Those standards are prescribed in the Commission's Electricity Distribution Code (**Code**). As a condition of its electricity distribution licence, issued by the Commission, SA Power Networks is required to comply with the service standards in the Code. The service standards and associated targets that apply to SA Power Networks are set out in Schedule 1 for reference.

The Commission monitors and publicly reports on SA Power Networks' performance against its service standards each year.

This report covers the performance of SA Power Networks for the 2018-19 financial year.

How SA Power Networks responded to its customers

The Code places obligations on SA Power Networks relating to customer responsiveness and enquiries.

The two customer service standards are:

- ▶ telephone responsiveness, and
- ▶ written enquiries responsiveness.

In 2018-19, SA Power Networks received 394,810 telephone calls and 3,881 written enquiries compared to 393,806 telephone calls and 2,237 written enquiries received in 2017-18.

SA Power Networks is required to answer 85 percent of telephone calls within 30 seconds and respond to 95 percent of written enquiries within five business days.

SA Power Networks met both customer service standards (refer Table 1) in 2018-19.

Table 1: SA Power Networks' 2018-19 customer service standards performance

Standard	Target	2018-19 performance
Telephone calls answered within 30 seconds	85%	90%
Written enquiries answered within five business days	95%	99%

Reliability of SA Power Networks' electricity distribution network services

The Code sets out minimum requirements to be complied with by SA Power Networks when dealing with its customers. It includes obligations relating to the quality, safety and reliability of the electricity distribution network (including the requirement for SA Power Networks to minimise supply interruptions and provide information to customers on planned interruptions).

The key electricity distribution network reliability service standards are set based on four main feeder categories using the following measures:

- ▶ **Unplanned System Average Interruption Duration Index (USAIDI)** – measuring the average annual duration (in minutes) of unplanned supply interruptions per customer. This standard is referred to as 'duration of interruptions (USAIDI)' in this report, and
- ▶ **Unplanned System Average Interruption Frequency Index (USAIFI)** – measuring the average annual number of unplanned supply interruptions per customer. This standard is referred to as 'frequency of interruptions (USAIFI)' in this report.

The Commission has set eight reliability service standards based on the following four feeder categories of SA Power Networks' electricity distribution network.

- ▶ **Central Business District (CBD) feeders** – those supplying predominantly commercial, high-rise buildings, supplied by a predominantly underground distribution network containing significant interconnection and redundancy when compared to urban areas.
- ▶ **Urban feeders** – those with actual maximum demand greater than 0.3 megavolt amps/km of total feeder route length, over the reporting period (but which are not CBD feeders).
- ▶ **Rural short feeders** – those with a total route length less than 200 km (but which are not CBD or urban feeders). Rural short feeders may include feeders in urban areas with low load densities.
- ▶ **Rural long feeders** – those with a total route length greater than 200 km (but which are not CBD or urban feeders).

In 2018-19, SA Power Networks met seven of the eight reliability service targets (refer Tables 2 and 3). If a target is not met this does not necessarily mean a standard is not met, because SA Power Networks may be able to demonstrate that it has used its best endeavours to meet the target. If SA Power Network can demonstrate best endeavours, the Commission may determine the relevant service standard has still been met.

The Commission excludes the effects of abnormal weather events when assessing the reliability performance of SA Power Networks. Any day that is a major event day¹ (MED) is excluded from the performance assessment. All information and figures in the report are normalised in this way unless otherwise indicated. The effects of other severe weather events (that do not meet the MED classification threshold) are included in the performance assessment. However, severe weather event effects are taken into account as part of the best endeavours assessment.

The service standard target not met was the duration of interruptions (USAIDI) for the rural long feeder category. The duration of interruptions (USAIDI) performance target for this feeder category is 300 minutes per customer per year and SA Power Networks reported 333 minutes per customer per year. SA Power Networks reported that the 2018-19 performance was the result of three severe weather events in December 2018 and May 2019, which mainly affected the Barossa, Mid-North and York Peninsula region, the Riverland and Murraylands region, and the Eyre Peninsula region and contributed 53 minutes to the duration of interruptions (USAIDI).

Table 2: SA Power Networks' 2018-19 normalised performance against reliability service standards (as measured by duration of interruptions (USAIDI))

Feeder category	Duration of interruptions (minutes/customer/year)	
	Target	2018-19 result
CBD ²	15	13
Urban	120	99
Rural short	220	181
Rural long	300	333

Table 3: SA Power Networks' 2018-19 normalised performance against reliability service standards (as measured by frequency of interruptions (USAIFI))

Feeder category	Frequency of interruptions (interruptions/customer/ year)	
	Target	2018-19 result
CBD	0.15	0.10
Urban	1.30	0.95
Rural short	1.85	1.46
Rural long	1.95	1.68

¹ A major event day is defined in the Institute of Electrical and Electronics Engineers (IEEE) standard 1366-2003, IEEE Guide for Electric Power Distribution Reliability Indices. The IEEE standard excludes natural events which are more than 2.5 standard deviations greater than the mean of the log normal distribution of five regulatory years' SAIDI data.

² Adelaide Central Business District

In response to a request from the Commission to demonstrate that best endeavours were used to achieve the 2018-19 duration of interruptions (USAIDI) target for the rural long feeder category, SA Power Networks reported that annual variation in reliability performance of rural long feeders can be significant and is normally due to external factors, including lightning. SA Power Networks reported that it had invested \$9.5 million over the last two years installing lightning-resistant insulators and will continue to install them in specific areas where there is a recurring lightning issue. SA Power Networks provided data showing that the long-term average rural long feeder category duration of interruptions (USAIDI) performance has been maintained.

To mitigate the effects of forecast severe weather, SA Power Networks reported that it takes actions that include:

- ▶ cancelling non-essential works
- ▶ assembling an Emergency Management Team to manage the event
- ▶ standing down crews in anticipation of the event to ensure that the maximum number of field crews are available to respond if the severe weather events eventuates
- ▶ relocating crews to areas expected to be most impacted
- ▶ sourcing and paying additional crews to be available, and
- ▶ arranging helicopters for aerial patrol support.

In terms of preparatory action taken to achieve targets, SA Power Networks provided information about asset management practices and procedures that apply to all feeder categories. Where assets are damaged by lightning, SA Power Networks reported that, where possible, the asset will be replaced with newer lightning-resistant equipment and if recurring lightning strike damage occurs in a locality then a larger program may be planned and scheduled to replace all insulators with lightning resistant insulators in that locality.

Based on the information provided, the Commission assessed that SA Power Networks demonstrated it used best endeavours to achieve the rural long feeder duration of interruptions (USAIDI) target and, therefore, that all eight reliability service standards were met for 2018-19.

SA Power Networks' distribution network services were generally reliable

With the exception of 2017-18, reliability of the distribution network in the CBD over the last 10 years has not varied significantly (refer Figure 1). Performance in the CBD returned to expected levels in the first half of the 2018 calendar year.

Over the past 10 years, SA Power Networks' reliability performance has shown an overall (positive) downward trend for three of the four feeder categories of SA Power Networks' electricity distribution network. Urban, rural short and rural long customers experienced less outages (on average) and shorter outages (on average). (Refer Figures 2 to 4).

Figure 1: CBD feeder category normalised USAIDI and USAIFI performance

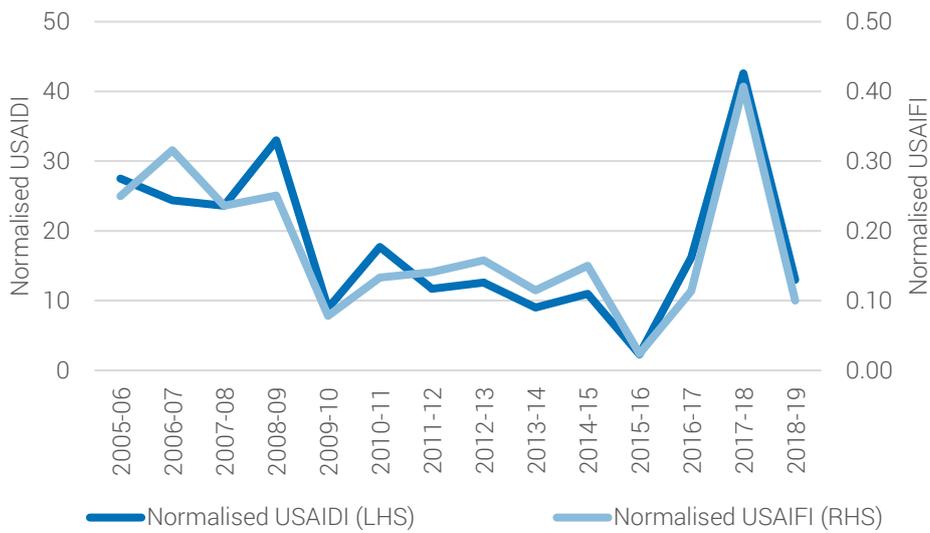


Figure 2: Urban feeder category normalised USAIDI and USAIFI performance

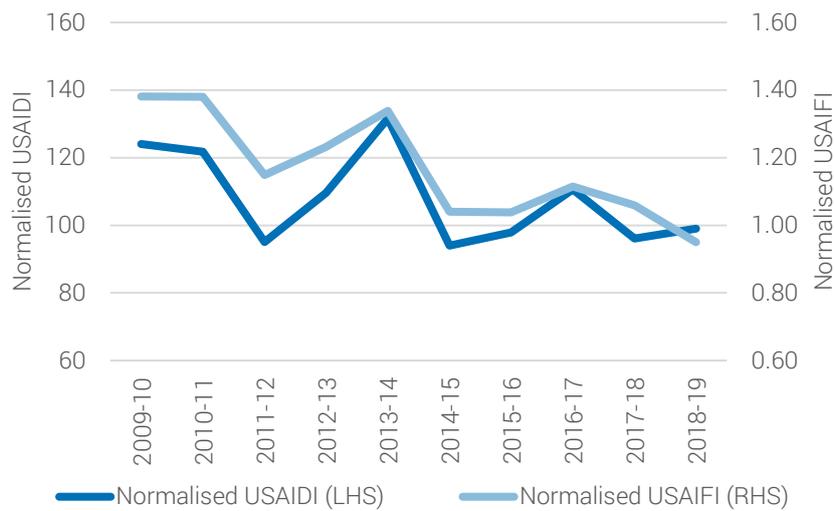


Figure 3: Rural short feeder category normalised USAIDI and USAIFI performance

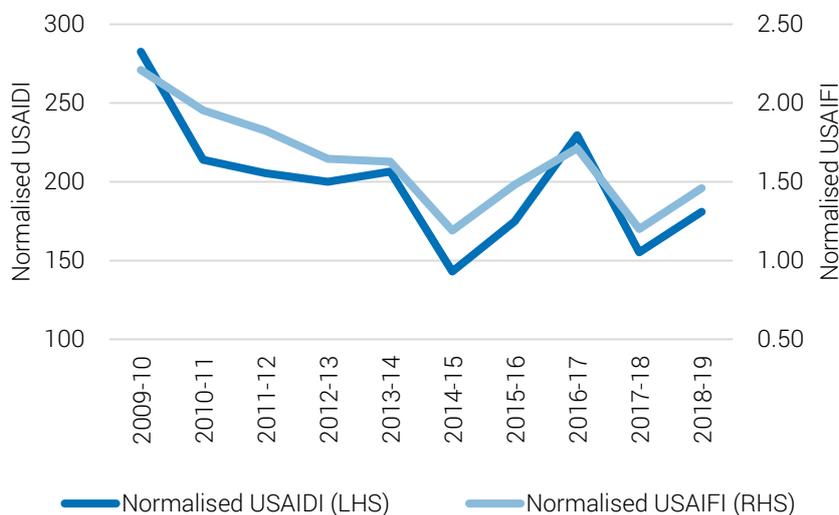
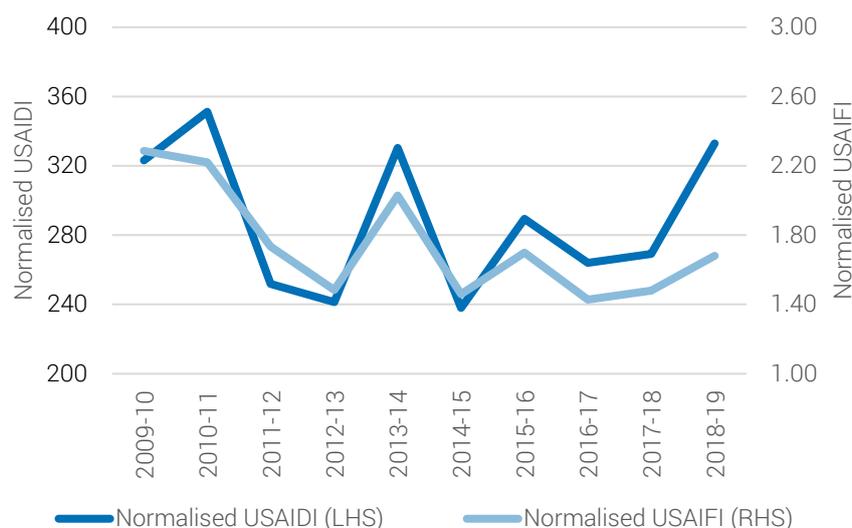


Figure 4: Rural long feeder category normalised USAIDI and USAIFI performance



Causes of interruptions were consistent with causes in earlier years

Table 4 summarises the causes of interruptions to customers in 2018-19. The impact of MEDs is excluded and therefore the table shows the underlying causes of interruptions.

The causes of interruptions are generally consistent with the average over the earlier five years, prior to 2018-19, with planned interruptions accounting for the largest proportion (38 percent).

Table 4: Interruption causes (excluding MEDs) in 2018-19

Interruption cause	Proportion of USAIDI 2018-19	Average for earlier five years (prior to 2018-19)
Weather	22%	20%
Equipment failure	19%	22%
Planned	38%	34%
Other ³ (unplanned)	21%	24%

Regional performance (normalised) is consistent with earlier years, except for Kangaroo Island

To assist customers who are unaware of the type of network feeder they are on but are seeking to understand the levels of reliability they receive, the Commission monitors SA Power Networks' reliability performance across South Australia split into the following geographical regions:

³ Includes third party (for example, vegetation and animal interference) and unplanned operational causes.

Adelaide Business Area⁴

The Adelaide Business Area covers Adelaide CBD bordered by the parklands. It accounts for 0.6 percent of SA Power Networks' customers and comprises 0.2 percent of the distribution system by length. The Adelaide Business Area distribution network is about 97 percent underground.

Major Metropolitan Areas

The Major Metropolitan Areas region supplies 70 percent of SA Power Networks' customers and comprises 26 percent of the distribution system by length, including most of the Adelaide region and other major centres outside of the Adelaide region. Approximately 44 percent of the distribution network in this region is underground.

Central region

The Central region covers the Barossa, Mid-North, Riverland and Murraylands. The region accounts for 12 percent of SA Power Networks' customers but comprises 30.3 percent of the distribution system by length. The distribution network in the Central region is nine percent underground.

Eastern Hills/Fleurieu Peninsula

The Eastern Hills/Fleurieu Peninsula supplies eight percent of SA Power Networks' customers and comprises 10.6 percent of the distribution system by length. The distribution network is 21 percent underground.

Upper North/Eyre Peninsula

The Upper North/Eyre Peninsula region accounts for five percent of SA Power Networks' customers but comprises 19.8 percent of the distribution system by length. The distribution network is only four percent underground.

South East

The South East region supplies four percent of SA Power Networks' customers but comprises 11.4 percent of the distribution system by length. The distribution network is only seven percent underground.

Kangaroo Island

The Kangaroo Island network supplies 0.5 percent of SA Power Networks' customers and comprises 1.7 percent of the distribution system by length. The distribution network is only seven percent underground.

Table 5 shows the reliability performance in 2018-19 for the seven geographic regions of the State covered by the reporting regime (noting that standards are not set for regions).

⁴ The Adelaide Business Area is reported on by SA Power Networks on the same basis as the CBD feeder category (see Figure 1 above).

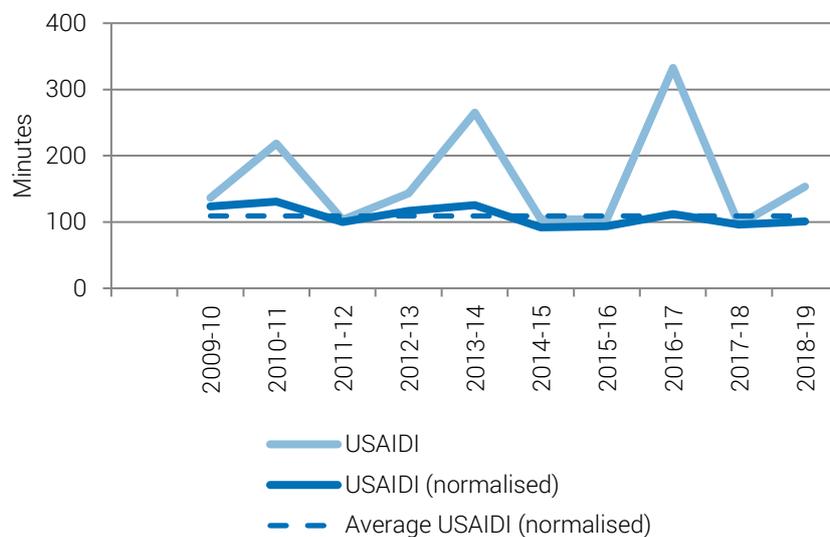
Table 5: Normalised USAIDI and USAIFI in 2018-19 (by geographical region)

Geographical region	USAIDI	USAIFI
Adelaide Business Area	13	0.10
Major Metropolitan Area	101	0.97
Central ⁵	211	1.27
South East	285	1.86
Eastern Hills/Fleurieu Peninsula	212	1.72
Upper North/Eyre Peninsula	415	1.26
Kangaroo Island	590	4.73

Figures 5 to 10 summarise the duration of interruptions (USAIDI) performance over time for the geographical regions other than the Adelaide Business Area. The Adelaide Business Area is reported on by SA Power Networks on the same basis as the CBD feeder category (see Figure 1 above).

Across the regions normalised duration reliability performance was similar to that of the earlier years, with the exception of Kangaroo Island where normalised duration reliability declined in 2018-19 compared to 2017-18 (Figure 10). In 2018-19, Kangaroo Island experienced three local Major Severe Weather Event (MSWE)⁶ days, not classified as MEDs, which contributed 270 minutes to both overall and normalised USAIDI.

Figure 5: Major Metropolitan Area duration of interruptions performance (minutes)



⁵ Barossa, Mid-North, Riverland and Murraylands

⁶ Major Severe Weather Event – a Bureau of Meteorology verified severe weather events that has a material effect on the distribution system’s Feeder Category’s or Electricity Distribution Code region’s USAIDI.

Figure 6: Central region duration of interruptions performance (minutes)

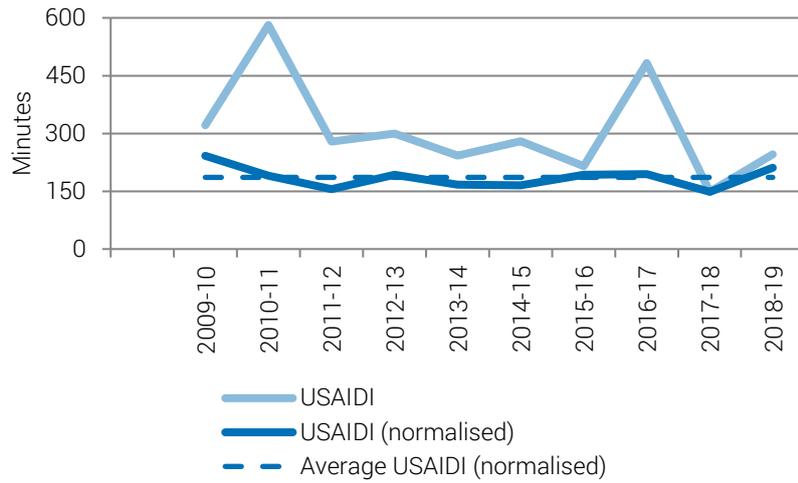


Figure 7: South East duration of interruptions performance (minutes)

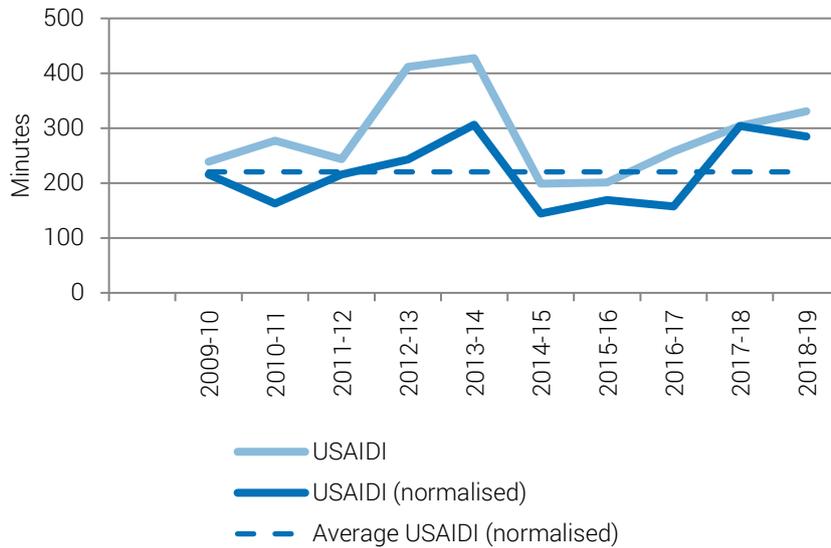


Figure 8: Eastern Hills/Fleurieu Peninsula duration of interruptions performance (minutes)

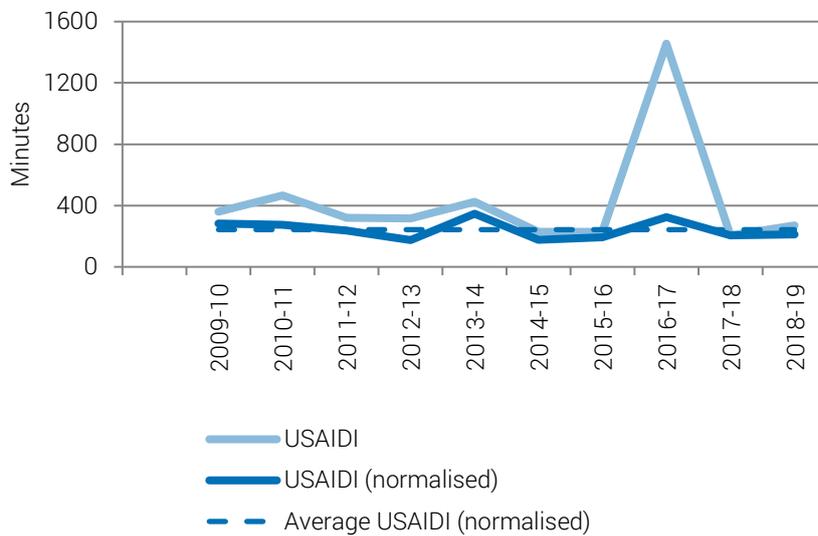


Figure 9: Upper North/Eyre Peninsula duration of interruptions performance (minutes)

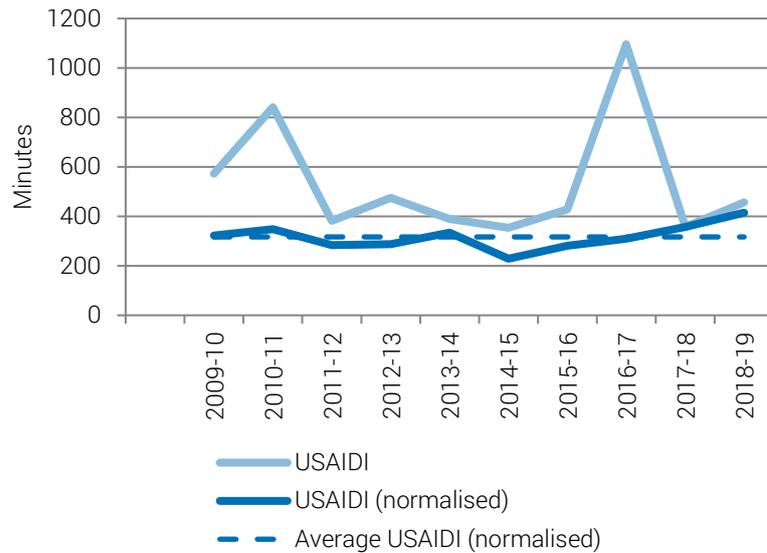
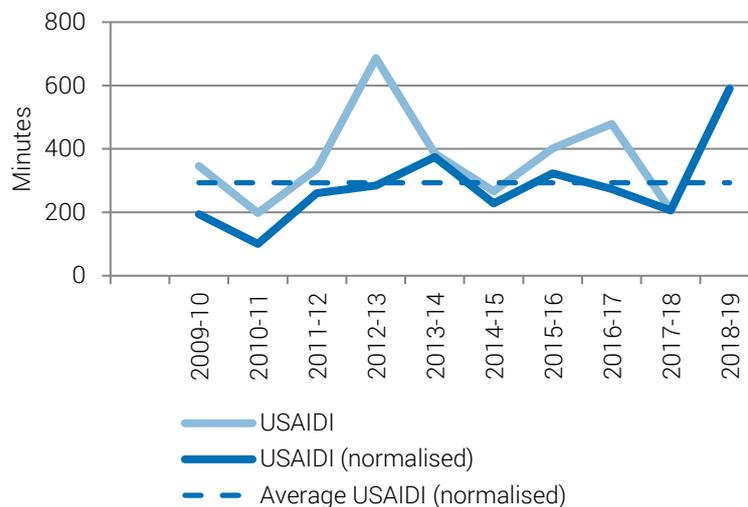


Figure 10: Kangaroo Island duration of interruptions performance (minutes)



SA Power Networks reported a slight increase in the number of low reliability distribution feeders. The Commission reviews the number of Low Reliability Distribution Feeders⁷ (LRDF) and customers affected in any given year. The review process focuses on individual feeder performance (including during MEDs) in poorly served parts of the network over two or more consecutive years, to reduce the impact of individual events in any one year (for example, storms or abnormal incidents).

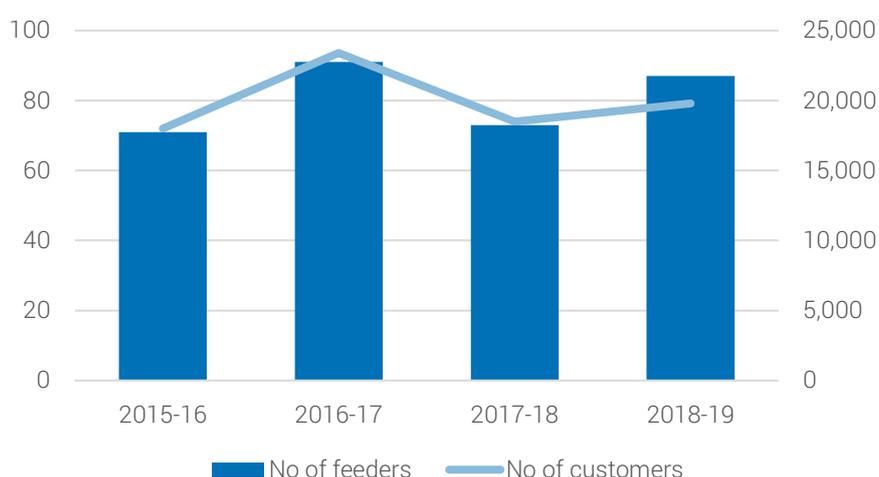
In 2018-19, out of a total of 1,730 feeders, there were 87 feeders that qualified as LRDFs affecting 19,798 customers (approximately two percent of the customer base), compared to 73 feeders affecting 18,504 customers in 2017-18 (Table 6). The increase in the number of LRDFs in 2018-19 was largely due to severe weather events during the year, but is consistent with recent historical performance (Figure 12).

⁷ A low reliability distribution feeder within a particular feeder category is defined as a feeder that has exceeded 2.0 times the normalised USAIDI Service Standard within that feeder category for two consecutive financial years.

Table 6: Low reliability distribution feeders in 2017-18 and 2018-19 (by feeder category)

Feeder category	2017-18		2018-19	
	No. of feeders	No. of customers	No. of feeders	No. of customers
CBD	2	222	1	16
Urban	9	9,837	12	11,449
Rural Short	15	4,293	11	1,983
Rural Long	47	4,152	63	6,351
State-wide	73	18,504	87	19,798

Figure 11: Low reliability distribution feeders and customers supplied



SA Power Networks GSL payments

Under the Code, SA Power Networks is required to make GSL payments to customers who have received service that is worse than a pre-determined threshold.

GSL payments are made in recognition of the inconvenience caused to customers, rather than attempting to reflect the full (and different) costs incurred by individual customers in response to a long interruption.

SA Power Networks administers a separate customer compensation scheme for damage or losses resulting from an incident associated with its electricity distribution network, which relate to loss due to negligence or bad faith.

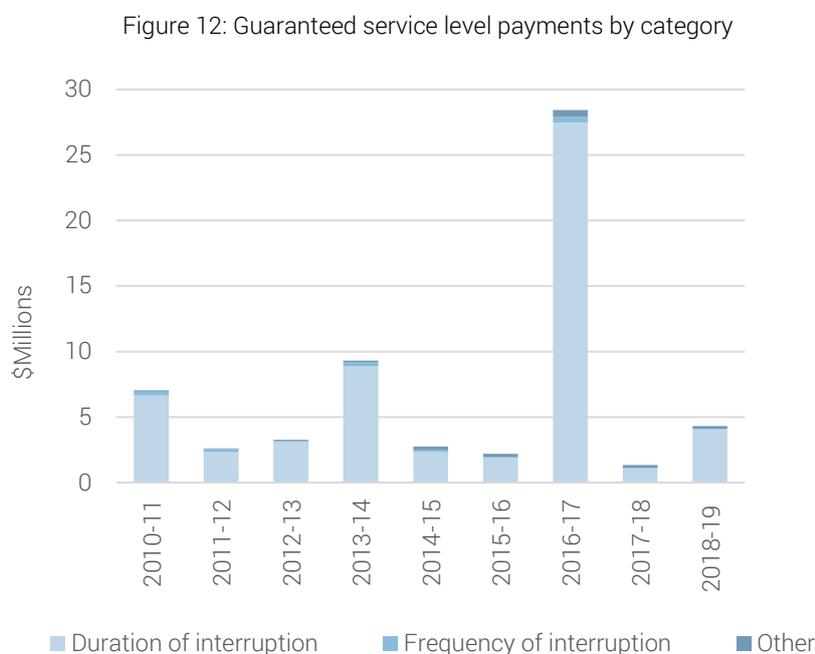
The categories of GSL payments are:

- ▶ timeliness of appointments
- ▶ promptness of new connections
- ▶ timeliness of street light repairs
- ▶ duration of supply interruption, and

- ▶ frequency of supply interruption.

In 2018-19, there were 28,474 GSL payments made totalling \$4.32 million, compared to 8,560 GSL payments made totalling \$1.34 million in 2017-18. Although GSL payments increased in 2018-19, they are still below the average total annual payments for the last five years (\$8.81 million).

Consistent with earlier years, the majority of GSL payments (over ninety percent in 2018-19) were made for duration of interruptions (Figure 12).



Further information on the GSL scheme can be found here <http://bit.ly/SAPN-ServiceLevelPayments>

Street light repair performance is in-line with earlier annual results in major metropolitan and regional areas

SA Power Networks is obliged to use its best endeavours to repair faulty street lights for which it is responsible. The timeframe for the repair is within five business days in major metropolitan and major regional centres and within 10 business days in regional areas. The proportion of street lights SA Power Networks repaired within these timeframes is in line with earlier annual performance, with 95 percent of street light faults in the major metropolitan and major regional centres being repaired within five working days. In regional areas, 99 percent of street light faults were repaired within 10 working days.

In 2018-19, SA Power Networks paid \$152,385 in GSL payments where it did not complete repairs within the required time. The corresponding GSL payment in 2017-18 was \$156,535.

How compliant was SA Power Networks with its regulatory obligations?

The key objectives of the Commission's compliance framework are:

- ▶ to enable regulated entities to have a focus on high performance and provide services to consumers at the lowest sustainable price
- ▶ to enable transparent communication with the community and build trust and accountability, and
- ▶ to facilitate and enable regulated entities to maintain a strong compliance focus so that customers (and the community) can trust those entities to provide appropriate services to required levels.

The Commission uses a broad range of sources and tools to elicit information, verify whether entities are complying with their obligations and provide feedback to entities to inform future compliance and enforcement work.

SA Power Networks is required to have robust compliance and reporting systems to ensure it complies with its regulatory obligations and to allow the Commission to effectively monitor its operational performance.

During 2018-19, SA Power Networks reported incidences of non-compliance with its electricity distribution licence, the National Energy Retail Rules, the Electricity Act 1996 (**Electricity Act**) and the Code which the Commission assessed. The Commission investigated the following matters of concern:

► **Non-bushfire area asset inspection cycles**

Over the last 5 years, SA Power Networks has not been compliant with the requirements of its safety, reliability, maintenance and technical management plan in relation to non-bushfire area asset inspection cycles (it is compliant in bushfire areas). SA Power Networks achieved full compliance in relation to those non-bushfire area inspections in December 2018.

In the 2013-14 reporting period, SA Power Networks implemented a frequent asset inspection program which enabled the collection of more asset condition data, resulting in a larger volume of asset defects identified. SA Power Networks reallocated staff to resolve these defects which caused delays to its non-bushfire area asset inspection cycles. SA Power Networks implemented a remediation plan, approved by the Technical Regulator, which planned for SA Power Networks to be compliant by December 2018. The Office of the Technical Regulator was kept informed of SA Power Networks' progress as the remediation plan was carried out and of its completion within the specified timeframe.

► **Entry under easement to perform work**

Each year since 2014-15, SA Power Networks has reported entering rural private land on a small number of occasions without giving written notification to the land owner prior to entry. It is a requirement of section 48 of the Electricity Act that SA Power Networks give prior written notice. In 2018-19, a total of 148 rural customers did not receive written notification prior to entry.

SA Power Networks responds to this non-compliance by ensuring that its personnel carry appropriate identification and provide it to the occupier, along with an explanation of why they have entered the land, if approached. SA Power Networks is taking the opportunity when conducting rural field days, to obtain land occupier details to ensure future compliance with this obligation.

► **Guaranteed Service Level payments**

SA Power Networks reported that not all reliability GSL payments are made to eligible customers within the required three month timeframe. The main cause is due to simultaneous faults occurring and the system aggregating the outages to a common point within the distribution system. The total number of payments made outside the three month period is reported to be approximately two percent of GSL payments made (of which 80 percent were related to MEDs).

SA Power Networks has advised that it is implementing a new outage management system during 2020 which aims to reduce this issue as it will have the ability to recognise individual faults more accurately. SA Power Networks is also investigating other cost effective methods to improve customer and interruption records accuracy. The Commission accepts this is appropriate action for SA Power Networks to take; however, it will continue to monitor this matter to ensure SA Power Networks is effectively managing GSL payments.

Further information

Further information on SA Power Networks' customer service-related regulatory obligations and service standards can be found here <http://bit.ly/SAPN-RegulatoryFramework-InfoSheet>.

The complete time series performance data for SA Power Networks can be found here: <https://www.escosa.sa.gov.au/industry/electricity/regulatory-reporting/regulatory-performance-reports>.

Information on the reliability standards framework that will apply to SA Power Networks from 1 July 2020 to 30 June 2025 can be found here:

<https://www.escosa.sa.gov.au/projects-and-publications/projects/electricity/sa-power-networks-2020-reliability-standards-review>.

Schedule 1: Service standards applicable to SA Power Networks (from 1 July 2015 to 30 June 2020)

Service Standard	Category	#	Target
Telephone calls answered within 30 seconds	Customer Service	1	85%
Written enquiries answered within five business days	Customer Service	2	95%
Duration of interruptions (USAIDI) (minutes/customer/year)	Reliability (CBD)	3	15
	Reliability (Urban)	4	120
	Reliability (Rural short)	5	220
	Reliability (Rural long)	6	300
Frequency of interruptions (USAIFI) (number/customer/year)	Reliability (CBD)	7	0.15
	Reliability (Urban)	8	1.30
	Reliability (Rural short)	9	1.85
	Reliability (Rural long)	10	1.95

The Essential Services Commission is an independent statutory authority with functions in a range of essential services including water, sewerage, electricity, gas, rail and maritime services, and also has a general advisory function on economic matters. For more information, visit www.escosa.sa.gov.au.

Essential Services Commission
GPO Box 2605 ADELAIDE SA 5001

Telephone: (08) 8463 4444 E-mail: escosa@escosa.sa.gov.au Web: www.escosa.sa.gov.au