



Electricity

ElectraNet Regulatory Performance Report 2019-20

Key messages

- ▶ In 2019-20, ElectraNet Pty Ltd met the reliability standards for all five exit point categories on the transmission network, as it has done each year since 2018, when the current standards were set.
- ▶ ElectraNet reported one more supply interruption and an increase in the average duration of supply interruptions, compared to the previous year.
- ▶ There were no transmission line or transformer failures for the 2019-20 year.

ElectraNet Pty Ltd (**ElectraNet**) is the monopoly service provider of electricity transmission services in South Australia.¹ The electricity transmission network in South Australia extends across approximately 200,000 square kilometres, and includes 88 high voltage substations and 5,600 route kilometres of transmission lines.

As a monopoly service provider, ElectraNet is subject to economic regulation in respect of the revenue it is permitted to earn from South Australian consumers. The Australian Energy Regulator is responsible for administering that regulatory regime under the National Electricity Rules.

How the Commission regulates ElectraNet

The Essential Services Commission (**Commission**) has issued to ElectraNet an electricity transmission licence, which authorises it to operate the majority of the transmission network in South Australia. As a licence condition, ElectraNet must comply with the requirements of the Electricity Transmission Code (**Code**).

The Code forms a part of the broader regulatory framework that applies to electricity transmission services in the National Electricity Market. The National Electricity Rules establish technical standards (dealing with matters such as network frequency, system stability, voltage quality and fault clearance), with the Commission's role confined to the development and monitoring of jurisdictional service standards, complementing the National Electricity Rules' technical standards.

Under the Code, ElectraNet must comply with obligations relating to the quality, safety and reliability of electricity transmission services (including minimising supply interruptions and informing customers about planned outages).² It must also use best endeavours to plan, develop and operate the electricity transmission network to meet the standards imposed by the National Electricity Rules in relation to the quality of transmission services and the transmission network.

The Commission monitors and reports on ElectraNet's compliance with the requirements set out in the Code and takes enforcement action in instances of non-compliance, if necessary.

¹ Although there are other transmission network operators in South Australia, the transmission networks operated by these entities do not intersect with the main transmission network in South Australia, which is operated by ElectraNet.

² Refer: <https://www.escosa.sa.gov.au/industry/electricity/codes-guidelines/codes>.

ElectraNet's exit point reliability standards

In 2019-20, ElectraNet met the reliability standards for all five exit point categories on the transmission network.

The Commission sets standards in the Code for ElectraNet's exit point reliability. Exit points are those connections between ElectraNet's transmission network and its customers, such as SA Power Networks or, in a small number of cases, directly connected large commercial customers. Overall, the standards provide transmission customers with certainty about the level of reliability of supply that ElectraNet must provide at each exit point.

The Code establishes five exit point reliability categories for ElectraNet's transmission network. Each category has specific reliability and supply restoration standards, under which the standard for each category is based primarily on the level of redundancy required (ie, additional plant and equipment which can be used to ensure continuous supply in the event that a primary network element fails), with category five being the highest level.³

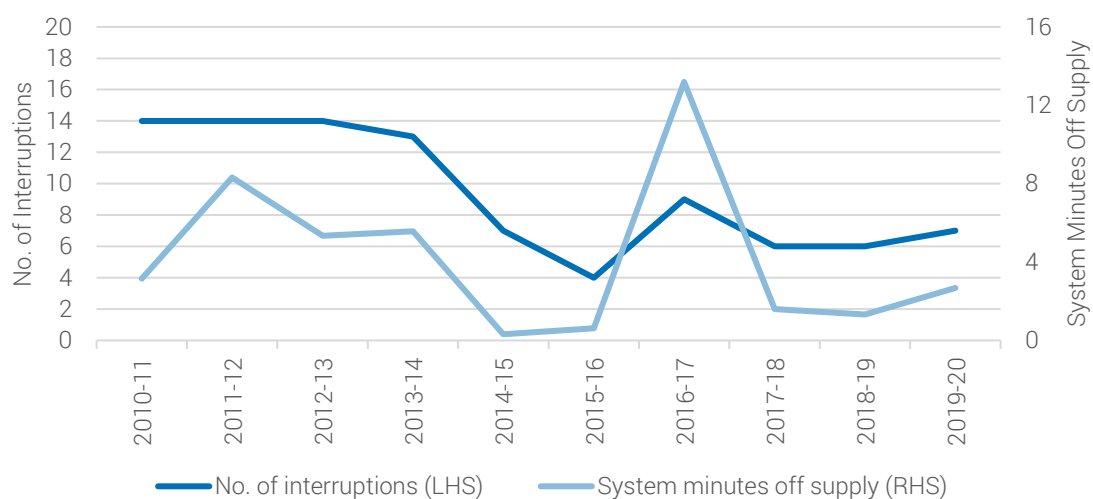
Each exit point is placed in one of those five categories, based on the Commission's periodic assessments as to whether or not the costs of augmenting each exit point to the next level of reliability are outweighed by the value to customers of the increased reliability that would result. The Commission undertakes those assessments prior to the commencement of each of the Australian Energy Regulator's five-yearly regulatory determination process for ElectraNet.

In regard to exit point reliability, ElectraNet reported that:

- ▶ there were no transmission line or transformer failures⁴ in 2019-20, and
- ▶ it restored line capacity (to achieve maximum agreed demand) within the exit point reliability standard timeframes specified in the Code.

Finally, ElectraNet reported that it has prepared, implemented and is compliant with an emergency transformer replacement plan and that it has sufficient spare transformers of appropriate types to ensure that the reliability standards of the Code can be met in the event of a transformer failure.

Figure 1. Number of transmission supply interruptions per year and associated system minutes off supply



³ Refer sections 2.4 – 2.9 of the Code at <https://www.escosa.sa.gov.au/industry/electricity/codes-guidelines/codes> for information on these standards.

⁴ Transmission line availability can be affected by factors such as transmission line failures, transformer failures and power system incidents.

ElectraNet's transmission services

While it does not set standards in respect of them, the Commission also monitors other transmission network reliability metrics that may impact South Australian customers.

The Commission monitors the number of power system incidents where the transmission network supply is interrupted, usually as a result of a power line tripping. ElectraNet reported seven supply interruptions in 2019-20, compared to six in the previous year. Over the last 10 years, there has been an average of nine annual interruptions.

The Commission also monitors system minutes off supply⁵ (SMOS) attributed to power system incidents. It is an indicator of the service level of the transmission network in supplying energy to network customers.

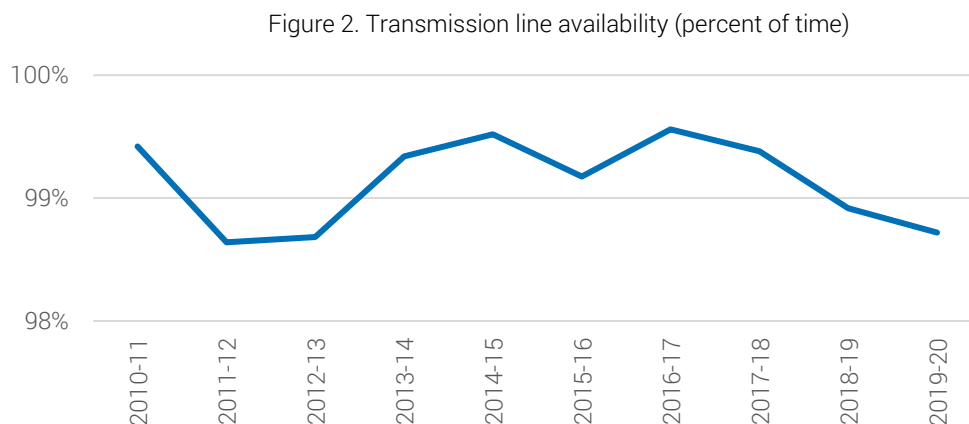
ElectraNet reported 2.68 SMOS for 2019-20. While an increase from 1.33 system minutes reported last year, the 2019-20 result was lower than the 10-year historical average of 4.33 system minutes (Figure 1). The increase in SMOS in 2019-20, compared to the previous year, has been attributed to outages caused by bushfire.

ElectraNet's transmission line availability

Transmission line availability is an indicator of the overall reliability of the network. It is a regulatory obligation⁶ that ElectraNet must use its best endeavours to minimise the number and duration of any interruption or restriction to transmission services, as compared with the level agreed in connection agreements.

Figure 2 below shows transmission line availability over the last 10 years. Transmission line availability for the 2019-20 year was 98.72 percent, which is below the 10-year average of 99.14 percent but within the 10-year range.

The Commission noted that 2019-20 was the third consecutive year of declining transmission line availability and requested a response from ElectraNet regarding this trend. ElectraNet confirmed that transmission line availability is dominated by planned line outages and that variations in line availability should not negatively impact its ability to achieve connection point reliability obligations in future.



⁵ System minutes unsupplied are calculated as megawatt hours of unsupplied energy divided by maximum regional demand.

⁶ Section 3.3 of the Code at <https://www.escosa.sa.gov.au/industry/electricity/codes-guidelines/codes> for information on these standards

Network support

In compliance with clause 2.11 of the Electricity Transmission Code (Network Support Arrangements), ElectraNet reported that its network support service (back-up transmission) to Port Lincoln was successfully tested during the financial year. There was one short interruption to Port Lincoln's transmission line on 30 December 2019, as a result of bushfire, which resulted in the network support service being utilised to maintain supply to Port Lincoln.

Further information

Further information on ElectraNet's customer service-related regulatory obligations and service standards can be found here: <https://www.escosa.sa.gov.au/industry/electricity/codes-guidelines/codes>.

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

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