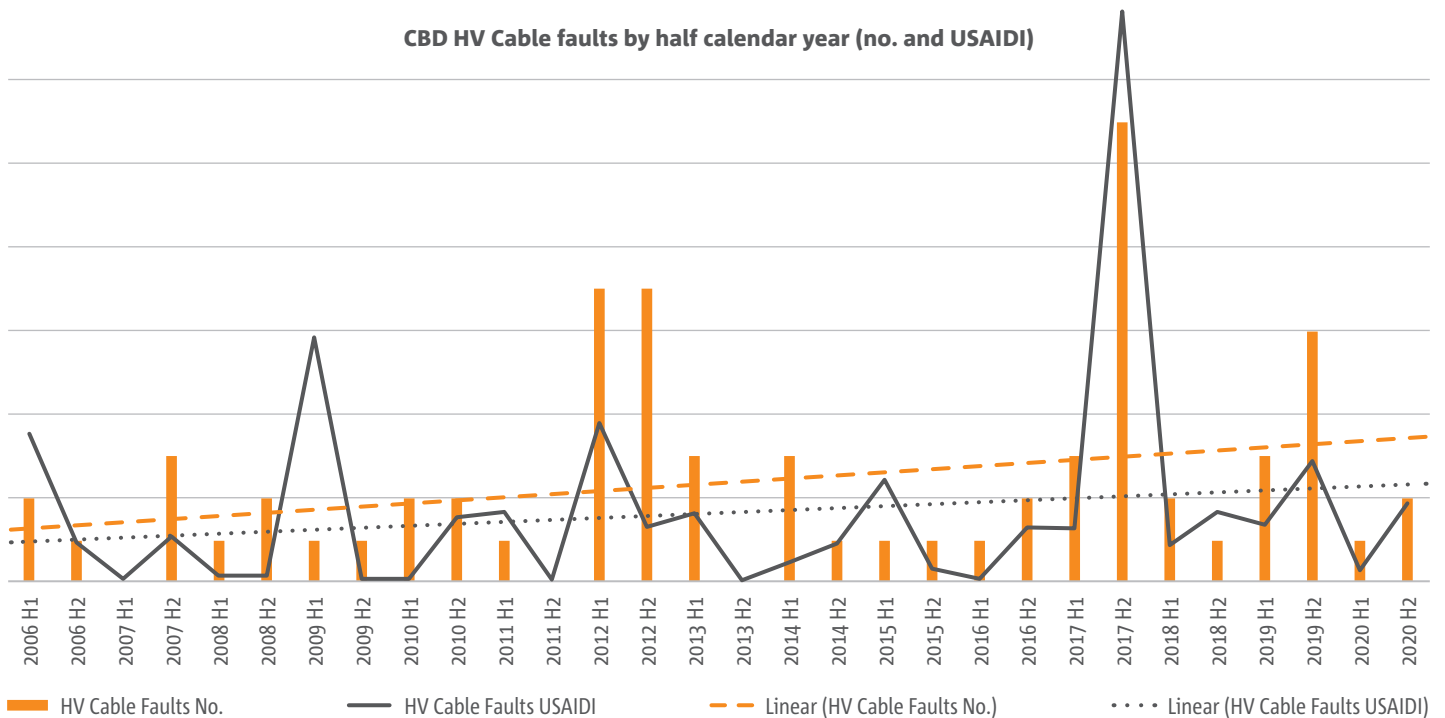


Maintaining reliable and cost-effective electricity supply for Adelaide's CBD

CBD HV Cable faults by half calendar year (no. and USAIDI)



The Adelaide Central Business District (CBD) continues to be a key economic and cultural hub for South Australia.

Recognising its importance, and the needs of more than 100,000 people living and working in the core CBD area, the Essential Services Commission of SA (ESCOSA) has established a reliability target that means, on average, a customer should experience outages of no more than 15 minutes per annum (the State-wide average is 150 minutes).

The electricity network supporting core CBD customers includes about 200 kilometres of underground cable. The age of the cables can vary significantly.

While the CBD has the most reliable electricity supply of any region in South Australia, power outages understandably cause heightened frustration and inconvenience for customers – all the more so when they occur in the key Christmas-New Year period and in a year when we have battled the health, social and economic impacts of COVID-19.

Most recent significant outages

On 18 December 2020, two separate cable faults triggered outages affecting a total of more than 1,200 customers. Faults were identified in underground cable sections on two separate lines from East Terrace substation, servicing about 800 customers in the south-east side of the city and including parts of Rundle Mall and Grenfell Street.

Some of these customers experienced long duration outages of up to seven hours as crews worked to identify the underground cable faults and make repairs. These cable faults also tripped earthing protection at the Coromandel Place substation affecting a further 400 customers for just under 80 minutes.

The faulted cable sections have been repaired and brought back into service and the earthing protection at Coromandel Place substation has been changed.

On 18 January 2021, about 300 CBD customers were impacted by an outage in the early hours of the morning, caused when third party contractors undertaking excavation works in the city damaged underground cables.

How have we responded to issues in the CBD?

SA Power Networks continually reviews how it maintains the SA electricity network and how it responds to outages. In recent years we have:

- established a depot within the CBD, which is used, particularly over critical business periods, as a staging point for crews to reduce outage response times;
- installed more remote fault sensing equipment within the network serving the CBD;
- commissioned an engineering investigative report; and
- developed a predictive model to inform the targeted and cost-effective replacement of cables that are nearing the end of their efficient service lives.

In 2018, an independent engineering consultancy found there was no specific pattern in terms of the type of cable fault, noting that while faults are more likely among older lead-covered and paper-insulated (PILC) cables, faults can occur in random cable sections located across the CBD.

It is not prudent to undertake a bulk replacement of all aged cables in the CBD, because this would place a disproportionate cost on the broader community. Instead, we have an approach that prioritises cable replacement in a way that aims to maintain reliability performance at current targeted levels.

In the five-year period 2020 to 2025, we will be investing over \$30 million in underground cable replacement and other works in the CBD. This is aimed at maintaining performance around ESCoSA's reliability target. However, our expectation is that cable replacement, and/or other interventions, will need to increase over time as network cable assets in the CBD continue to age and reach the end of their effective working life.