

Assisting the NT
in meeting its 50%
by 2030 renewable
energy target



Solving challenges
in one of our most
complex & isolated
power systems



Ancillary Services - frequency control

Running a power system is a complicated business. In simple terms, generation needs to match load at all times; but the system also needs to manage other factors to maintain its stability. These 'other factors' are collectively known as 'ancillary services'. This fact sheet focuses on the ancillary service known as frequency control.

Frequency control is needed to maintain the power system at 50 hertz (Hz). If customer demand exceeds the level of generation available, the system frequency will decrease. Conversely, if load decreases and there is too much generation, frequency will rise. Frequency control is the backbone of all grids and in Alice Springs it is kept between 49.8 Hz and 50.2 Hz under normal operating conditions, to avoid instability.

The Australian Energy Market Operator (AEMO) describes frequency control in [this fact sheet](#). It explains deviation in frequency can happen for a variety of reasons, including

loss of generation capacity or unplanned network outages.

If power system frequency falls below a particular range, parts of the system are designed to automatically disconnect to rebalance power supply and demand in what is known as Under Frequency Load Shedding (UFLS).

This can result in certain neighbourhoods being disconnected to prevent a more widespread outage. Other generation can then be brought online and balanced with demand as customers are reconnected.

Quick facts

Ancillary services can refer to network support, system restart and frequency control ancillary services (FCAS).

The battery energy storage system (BESS) in Alice Springs is being optimised to provide various ancillary services.

Electric Vehicles have the potential to provide ancillary services.



Ron Goodin power station
in Alice Springs



The Intyalheme Centre for Future Energy is helping to identify and coordinate the removal of barriers to further renewable energy penetration in the Alice Springs power system.

More details: intyalheme.dka.com.au

