

HOW WE'RE HELPING TO KEEP THE ELECTRICITY SYSTEM RELIABLE

ENHANCEMENT TO THE RELIABILITY AND EMERGENCY RESERVE TRADER FINAL DETERMINATION 2 MAY 2019

The reliability and emergency reserve trader (RERT) is an emergency mechanism that's used when the power system is under extreme pressure.

This can happen when the market is under pressure from extreme weather events, when there are sudden generation failures, or exceedance of AEMO's demand estimates. We have made new rules to boost this emergency safety-net so it has the flexibility to effectively promote electricity market reliability at the lowest possible cost to consumers.

The changes will also underpin the proposed retailer reliability obligation which aims to encourage the right amount of investment in the power system's long-term capacity so AEMO is not forced to intervene more than necessary with higher cost safety-net options.

CAUSES OF BLACKOUTS FY 2009 - FY 2018



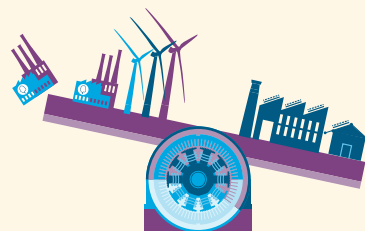
Networks
95.6%

of all blackouts are caused by sudden poles and wires breakdowns in the grid

Wholesale

Security events

When the system is shocked out of technical equilibrium



The system must be strengthened

Synchronous generators like coal, biomass, gas and hydro operate with large spinning turbines that help maintain consistent frequency and voltage, keeping the system stable. They inherently produce inertia – the energy momentum that lets the system ride through sudden disturbances and maintain its operating frequency of around 50 Hertz.

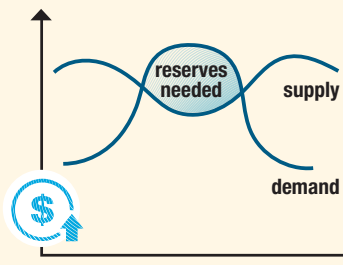
Non-synchronous generators like wind and solar have no or low inertia. Systems with lots of non-synchronous generation are weaker and harder to control. They have less time to recover from sudden equipment failures before frequency collapses and blackouts happen.

4.1%
of blackouts are caused by security events

0.3%
of blackouts are caused by reliability events

Reliability events

When there is not enough capacity built into the system



Investment confidence must be rebuilt

The power system needs integrated energy and emissions reduction policy so firm, dispatchable capacity is available in the right place at the right time. Investment in generation capacity and demand response includes a buffer called **market reserves**.



If there is not enough generation and demand response in the right place at the right time then **emergency reserves** are activated.

