Load Shedding

Load shedding is the planned reduction of electricity to selected areas during extreme events to protect the electricity network from long-term damage and widespread consumer outages.

Used as a last resort, load shedding assists in balancing supply and demand to maintain power system security.

What causes electricity shortfalls?

In a major electricity system, energy supply and demand need to remain balanced to keep system frequency within a secure operating range. AEMO continually forecasts demand from homes and businesses, and dispatches electricity from a range of sources to meet that demand in real time.

On rare occasions, there isn't enough supply to meet demand due to a range of factors, including:

- Extreme weather events, such as heatwaves, floods and storms
- Generation and/or infrastructure outages

Under frequency load shedding (UFLS)

Load shedding can also occur automatically under coordinated schemes when sudden, unexpected events cause a sharp drop in frequency. In these cases, UFLS can kick in to quickly stop the frequency drop, preventing it from collapsing completely and allowing the system to be re-secured.

Why may load shedding be needed?

After all supply and demand response options available to AEMO have been exhausted, manual load shedding may be required as an absolute last resort to avert the risk of whole system collapse or physical damage to parts of the power system.

These options include:

- Dispatching all available generation and demand response.
- Using any operational flexibility to maximise network capacity.
- Using emergency energy reserves.

Emergency reserve mechanisms

Where available, AEMO can use emergency reserves under the Reliability and Emergency Reserve Trader (RERT) mechanism in the National Electricity Market or Supplementary Reserve Capacity (SRC) in the Wholesale Electricity Market to avoid or reduce load shedding. This allows AEMO access to off-market reserve generation and demand management contracts to maintain reliability of supply.

Which areas could be affected by load shedding?

AEMO does not decide which areas have their power turned off.

AEMO identifies the amount and duration of electricity shortfalls. The network transmission and distribution companies work out how manual load shedding is done at a local level to meet the shortfall.

Approaches vary between the states and territories, and each has a plan developed by the state government in collaboration with the electricity industry for how manual load shedding is to be carried out in their jurisdiction.

In Victoria, the priority order of load shedding is determined by the Victorian Jurisdictional System Security Coordinator (JSSC), which is currently AEMO's role, with advice provided by a Technical Working Group consisting of Government and Network Service Providers. Other states have some variation of this approach, but the principles in determining this order are consistent.

Wherever possible, manual load shedding is done on a rotational basis to minimise impact.

AEMO, governments, and the electricity industry work together to minimise the impact on the community, particularly major health facilities, emergency services and public transport. However, all electricity consumers should be prepared for power outages, in the rare occurrence that AEMO instructs manual load shedding to protect the whole interconnected power system.

Did you know?

The power system may experience different types of power outages. Load shedding is different to local outages.

- **Planned outages** are prearranged and necessary for routine maintenance, inspections and improvements on various electricity infrastructure.
- **Local unplanned** outages are interruptions to the generation, transmission, or distribution of electricity that is unscheduled and can occur as a result of damage to wires or infrastructure.

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