AEMO summer operations

A snapshot of how we manage the world's longest power grid during its heaviest demand period.

This infographic demonstrates the actions taken by AEMO before, during and after the long, hot Australian summer.

What impacts electricity supply levels in summer?

AEMO plans extensively to secure adequate generation supply for the summer period. However, unplanned events can impact our available resources.

High demand
High usage of air conditioners on hot days contributes to summer being the highest demand period for the year

Extreme weather
Prolonged heatwaves, torrential rain, flash flooding, lightning and damaging winds

Natural disasters
Bushfires, hurricanes, tornadoes

Reduced weather-related generation
Extensive cloud cover, dust storms, wind droughts, water droughts

Critical equipment maintenance
Urgent maintenance that is required to keep equipment safe or operational

Generator outages
Unplanned outages due to an event or technical fault

Transmission outages
Unplanned outages due to an event or technical fault

Planning and preparation

Resource management and event response

Review and report

Pre-summer

June

Summer planning commences
This includes working with industry members and government to align maintenance timelines and schedules to reduce the number of planned transmission and generation outages in summer.

August

AEMO releases its annual Electricity Statement of Opportunities (ESOO) report
This report looks at the supply-demand outlook for the National Electricity Market over the next ten years and flags any forecast risks to supply levels.

Sep–Dec

AEMO negotiates Reliability Emergency Reserve Trader (RERT) resources, using forecasts in the ESOO
RERT is a mechanism available to AEMO to maintain power system reliability and system security by using off-market generation and demand management contracts (reducing usage).

December

Issue Summer Readiness Plan
AEMO facilitates an annual summer briefing with industry and government stakeholders, ahead of publishing the Summer Readiness Plan. The report details the plans and actions AEMO and the industry have taken to prepare Australia's power system for the summer ahead.

Summer

Lack of Reserve (LOR) and controlled load shedding

AEMO plans extensively to secure adequate generation supply for the network throughout the year. However, the summer period remains the most challenging, with an increased risk of LOR conditions.

AEMO defines forecast LOR and actual LOR as follows; a forecast LOR occurs when AEMO's forecasts show a reduced amount of electricity reserves. Once a LOR is forecast, AEMO issues a market notice encouraging generators to provide more electricity and wholesale demand response to reduce consumption. An actual LOR is when the market response to the forecast LOR has not been adequate to clear the LOR thresholds, and the LOR becomes an operational reality. LORs are categorized over three tiers;

LOR 1 – This condition exists when reserve levels are lower than the two largest supply resources in a state.

LOR 2 – This condition exists when reserve levels are lower than the single largest supply resource in a state. Once a forecast LOR 2 is declared, AEMO has the power to direct generators or activate the RERT mechanism to improve the supply-demand balance.

LOR 3 – This condition exists when the available electricity supply is equal to or less than the operational demand. This means there are no reserve supplies available. Controlled load shedding may be required as a last resort.

Controlled load shedding
As a last resort, controlled load shedding occurs to protect system security, and prevent long-term damage to system infrastructure. To do this, AEMO will inform the regional transmission network service provider of how much load needs to be shed and when. The transmission network service provider will then work with distribution businesses to action this, including rotating outages if required.

Wholesale Demand Response

The Wholesale Demand Response (WDR) mechanism commenced in the National Electricity Market in October 2021, enabling large commercial and industrial businesses to bid and schedule a reduction in electricity consumption for payment.

Post-summer

1st June

(If required) Incident report
AEMO will conduct an in-depth investigation of the events before, during and after controlled load shedding has occurred. This report will be published on the AEMO website, and the lessons learned will be incorporated into the next Summer Preparedness report.

Planning for next year's summer begins

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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