

2021 Annual Market Performance Review: Market Performance Update July 2020 – June 2021

The Reliability Panel has released its market update, providing initial insights and analysis as part of its Annual Market Performance Review (AMPR). The AMPR is required under the National Electricity Rules. It provides observations and commentary on the security, reliability and safety of the power system. The annual review is becoming increasingly relevant as the power system faces a period of rapid transition, with the impacts of this transition already becoming apparent.

Purpose of the market performance update

The update provides market participants with more timely information about power system performance and emerging trends in the areas of security, reliability and safety.

It also aims to help stakeholders provide informed input into current issues and reforms that are underway related to reliability and security of the NEM. This market update sets the context for the annual review, which is scheduled to be published in Q2 2022.

The 2021 update and review cover the period from 1 July 2020 – 30 June 2021. Most of the data included in the update is already publicly available, however some figures are being published for the first time in the update. The underlying data behind the figures will be published to a data portal when the annual review is released.

Key findings

Reliability

The key finding for reliability was that there were some challenges relating to reliability, but these were largely managed by the reliability frameworks. Other key findings include that:

- No actual unserved energy (i.e. customers being without power) was recorded in 2020-21
- AEMO forecasts no breach of the reliability standard (0.002 per cent unserved energy) in the NEM until 2028-29 in VIC when Yallourn is scheduled to close
- Installed renewable capacity continues its upward trajectory, as does battery capacity, albeit at a much smaller magnitude compared to renewables
- Two reliability directions were made, down from six in 2020-21, however this was an outlier compared to other recent years.
- There was a notable increase in LOR1 notices, however there was not a corresponding increase in LOR2 or LOR3 notices. LOR1 means that the consecutive occurrence of the two largest credible contingency events would lead to load shedding, LOR2 indicates that the occurrence of the largest contingency event would lead to load shedding, while LOR3 indicates load has or will be shed. Thus, an increase in LOR1 notices, while LOR2 and LOR3 remain flat indicates a system that is tight but with the reliability frameworks managing these challenges.
- Minimum system load and associated low-price trends are emerging as an issue, particularly in South Australia and Queensland.

Security

2020-21 continued the trend of increasing complexity around managing power system

security. Other key findings included:

- The frequency performance of the NEM improved markedly following the implementation of mandatory primary frequency response arrangements.
- Q2 2021 saw higher FCAS prices due to local requirements in Queensland, low coal-fired generation availability and energy price volatility.
- Transmission related security events are trending upward. This encompasses security events relating to key network elements, those being elements with an operating voltage greater than 220 kV, and some additional elements identified by AEMO.

The ongoing challenge and complexity to maintaining power system security is a key focus of the Panel and will be considered in more detail in the final report. Operating the power system securely ensures it remains inside its technical limits, contributing to power system safety. The Panel also notes that essential system services is a key area of reform in the market at present, and that it intends to review the frequency operating standard in FY22.

Other trends

The Panel also deep dives into several key issues. This market update looks at:

- *Trends in system load* — the impact of DER, particularly solar, on system load continues to grow. This is resulting in greater variability in system load across the day, and lower minimum system load levels.
- *The impact of outages affecting the interconnectors on reliability* — there is a moderate correlation of outages on or near interconnectors and LOR conditions in NSW and Queensland.

Who is the Reliability Panel?

The Reliability Panel is a specialist body formed by the Australian Energy Market Commission (AEMC). The Panel is comprised of members who represent a range of participants in the national electricity market, including consumer groups, generators, network businesses, retailers and the AEMO. It is chaired by an AEMC commissioner. The National Electricity Law sets out the key responsibilities of the Panel. These include:

- Monitoring, reviewing and reporting on the safety, security and reliability of the national electricity system
- Providing advice in relation to the safety, security and reliability of the national electricity system, at the request of the AEMC

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