INFORMATION

2022 Reliability standard and settings review final report

The Reliability Panel has published its final report for the 2022 Reliability standard and settings review.

The Reliability Panel (The Panel) has published its final report for the 2022 Reliability standard and settings review (2022 RSS review). It sets out the Panel's final recommendations and findings for the reliability standard and settings needed for the period of 1 July 2025 to 30 June 2028. The Panel's final recommendations were made taking into account the Panel's requirements under the NER, 2021 RSS review guidelines, modelling[1] and stakeholder feedback during the review.

The 2022 RSS review and final recommendation are provided in the context of the existing energy-only market design. The design and scope of a capacity mechanism and the interim reliability measure were out of scope for the 2022 review. The Panel has made some commentary on those issues, to the extent they intersect with the Panel's final recommendations on the reliability standard and settings.

The Panel is required to, in accordance with the National Electricity Rules, submit a rule change request to the AEMC for its recommendations to change the form or level of the reliability standard or settings.[2] Stakeholders will have the opportunity for further input on the changes recommended in this final report through the AEMC rule change consultation process.

The reliability standard is used to indicate to the market the required level of supply to meet demand on a regional basis. The reliability settings include the Market Price Cap (MPC), Cumulative Price Threshold (CPT), Administered Price Cap (APC), and the Market Floor Price (MFP). Together the standard and settings aim to encourage sufficient investment in generation or demand response capacity to meet consumer demand for energy, while protecting market participants from potential financial risks that threaten the overall stability and integrity of the market.

Summary of Panel final recommendations

The Panel has undertaken its 2022 RSS review in an unprecedented environment. The 2022 review was:

- broader in scope, with both the form and level of the reliability standard and settings considered,
- undertaken against the backdrop of unprecedented and rapid change in the energy market and hence more uncertainty in future market conditions,[3] and
- considered future reliability outcomes in the context of a NEM power system that is undergoing a fundamental transition from being a capacity-limited thermal power system to a high variable renewable energy generation (VRE) more energy-limited power system.

Given this, the Panel had regard to, and balanced, a range of different trade-offs to determine the need for change in the settings from 1 July 2025 to 30 June 2028 as well as what may be needed outside the review period as the market transitions. The following provides the Panel's final recommendations for the 2022 RSS review.

Form of the reliability standard. The final recommendation is to retain the current

1 Refer to IES final modelling report for the 2022 RSS review.

2 The existing standard and settings are set out in the NER.

3 This includes the recent increase in fuel costs and administered price period between 12 June to 14 June and the market suspension from 15 June 2022.

form of the reliability standard expressed as a percentage of expected unserved energy (USE) for the review period, 1 July 2025 to 30 June 2028.

The Panel, noting its recommendation, has identified a case for changing the form of the standard by the next RSS review period, commencing on 1 July 2028. The Panel considers that the form of the standard should be changed by 1 July 2028 to accommodate a "tail risk" metric in combination with an "expected value of unserved energy" standard metric. The Panel makes this final recommendation as:

- Reliability risk will need to be characterised differently in the transition from a primarily capacity-limited thermal power system to a more energy-limited VRE power system, with a commensurate shift in the distribution of unserved energy towards greater "tail risk".[4]
- A single "expected value of unserved energy" metric provides insufficient information on the distribution of USE in a high VRE power system and may not effectively reflect changes in the NEM's reliability risk profile by 2028.
- Loss of load probability (LOLP) and expectation (LOLE) based reliability standards do not sufficiently capture the changing reliability risk profile and hence a hybrid standard tail risk metric is more likely to provide the scope to capture consumers' willingness to pay to address reliability tail risk.

The Panel considers extensive analysis and consultation will be required prior to implementing a specific change to the form of the standard. The Panel therefore will undertake a follow-up review to assess specific changes to the form of the standard.

Level of the reliability standard. The final recommendation is to retain the current level of the reliability standard at 0.002% expected USE in a region over a financial year for the review period.

The Panel has made its recommendation on the basis that:

- The benefits of changing the level of the reliability standard from 0.002% USE to 0.0015% USE, as revealed by the modelling, are not sufficiently material to justify a change.[5]
- Changing the reliability standard, rather than tightening its level, is the preferred approach to reflect the changing nature of reliability as the NEM transforms to a high VRE more energy-limited power system.
- The high Value of Customer Reliability sensitivity identified a potential reliability standard level of approximately 0.001% expected USE was not considered by the Panel to be a value that appropriately reflects customer willingness to pay for reliability and given the excessive MPCs required to achieve that level.[6]
- In addition to considering the form of the reliability standard to account for tail risk, tighter levels of reliability may be better supported by other mechanisms or tools.

Market Price Cap and Cumulative Price Threshold. The final recommendation is for a progressive annual adjustment in the level of the MPC and CPT to achieve an MPC of $21,500/MWh and a CPT of $2,193,000 (corresponding to 8.5 hours of market prices at the recommended MPC) (in $2021) by the end of the review period. The form of the MPC and CPT are recommended to be maintained for this review period.

This final recommendation has been made on the basis that:

- material benefit will be achieved relative to outcomes under existing arrangements as indicated by the modelling undertaken for the review,
- the final recommendation aims to provide a gradual change in the MPC while also achieving levels identified by the modelling as necessary to support reliability outcomes consistent with the standard,
- the value of increasing demand response (DR) participation was taken into account in the assessment,
- incentives for storage investment are incrementally improved,
- contract markets impacts and systemic risk are minimised, and

4 Tail risk represents low probability events that would have a high impact on reliability outcomes.

5 The Panel's base case modelling indicated total system costs were 0.2% lower under a reliability standard on 0.0015% expected USE relative to 0.002%.

6 The Panel's high VCR sensitivity utilised a VCR of approximately $100k in each NEM region.

- the impact on electricity costs is minimised to the level required to support reliability.

The Panel has given particular consideration to consumer concerns regarding increases in the market settings and recent increases in electricity costs. In accordance with the review's modelling, the increase recommended is the minimum level required to support investment in generation, storage and demand response needed to avoid not meeting the reliability standard in light of thermal generator retirements after 30 June 2028.

The majority of the Panel considers the final recommendation was justified given the value of the benefit the modelling indicated would be realised by consumers from enhanced future reliability outcomes. Two Panel members representing consumers, however, do not consider an increase to the MPC or CPT was required at this time for the reasons outlined in the final report.

Administered Price Cap. The final recommendation is to increase the level of the APC from $300/MWh to $500/MWh and recommends that changing the form of the APC from a fixed to dynamic value is considered and included in the follow-up Panel review on the form of the reliability standard.

The Panel considers that there is a material benefit to increasing the APC to minimise reliance on the compensation regime and reduce additional pass-through costs to consumers. The final recommendation:

- Makes the APC a more resilient market mechanism capable of operating as intended in potential future high price periods. While the high fuel costs in the recent Administered Price Period (APP) are not typical, the Panel considers that they may be less rare in the future and increasing the APC to $500/MWh should sufficiently cover the short run marginal cost of most generators in a range of credible scenarios, noting that the APC will likely be rarely imposed and generally only in unpredictable and extreme circumstances.
- Prevents undue reliance on compensation processes. In light of the recent APP where the AEMC has indicated that 24 registered participants have submitted claims, the Panel considers that the increased APC will reduce reliance on the compensation process to a limited number of very high-cost generators during periods of unusually high fuel costs.
- Improves incentives for storage to participate during an APP. During the recent APP, the Panel notes that energy-limited units found the $300/MWh APC did not sufficiently provide incentives to charge and discharge as normal, which resulted in less than optimal utilisation without material intervention from AEMO.
- Enables better management of APP-related consumer costs. Raising the APC reduces compensation costs that are passed through to consumers but may increase hedging costs. Reducing the reliance on compensation reduces cost uncertainty for both generators and consumers.[7]

Market Floor Price. The final recommendation is to retain the form and level of the MFP at -$1,000/MWh.

The Panel considers that the MFP should remain at-$1,000/MWh because:

- adjusting the level of the MPC is not warranted in the absence of a clearly identifiable benefit over the review period. The Panel notes the impact of the 5-minute Settlement rule and Semi-scheduled Generator Dispatch rule changes appear to have reduced the incidence of MFP events, and
- there are unacceptable risks associated with a more deeply negative MFP which may increase systemic risk and the potential for disorderly thermal generator retirement.

Adjusting the MFP to provide stronger investment signals for demand response and storage is not warranted for this review period, but may be considered by the Panel in future review periods.

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7 It is noted that two Panel members representing consumers did not consider the need for an increase of the APC to the level of $500 at this time for the reasons outlined in the report.

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