



Terms of Reference to the Reliability Panel

Reliability Panel review of the form of the reliability standard and APC March 2023

1. Introduction

The Australian Energy Market Commission (AEMC) requests that the Reliability Panel (Panel) provide advice on the form of the reliability standard (the standard) and administered price cap (APC). The AEMC makes this under section 38 of the National Electricity Law (NEL), which provides for the Panel to advise the AEMC on the safety, security and reliability of the national electricity system.

The AEMC has issued these terms of reference in response to the Panel's recommendation in its 2022 reliability standards and settings review (RSS review) for a review to investigate changes to the form of the standard and APC. These terms of reference enable this review and specify the scope, matters for consideration, deliverables and process for the review.

2. Background

The Panel's 2022 RSS review identified several potential reforms where additional consultation and consideration is required before it could submit any necessary rule changes to the AEMC. These were amending the form of the reliability standard to incorporate a 'tail risk metric' in combination with the existing expected value of unserved energy (USE) metric. The Panel would also consider whether amending the APC from a fixed value to one dynamically linked to fuel prices would be beneficial.

The AEMC's understanding of the Panel's recommendations and reasoning is outlined below.

2.1. The form of the reliability standard

The reliability standard is essential to the national electricity market's (NEM) reliability framework. It is an ex-ante standard used to indicate the required level of supply to meet demand on a regional basis and informs the market price settings. The Australian Energy Market Operator (AEMO) then operationalises the standard. The current standard for generation and inter-regional transmission elements in the NEM is expressed in terms of a region's expected USE. It is set at a maximum of 0.002 per cent of the total energy demanded in that region for a given financial year.

The reliability standard represents a trade-off between the prices paid for electricity and the cost of not having energy when needed. It is set at a level that provides a balance between delivering reliable electricity supplies and maintaining reasonable costs for customers.

The AEMC appreciates that the Panel has identified a case for changing the form of the reliability standard by the next RSS review period, commencing on 1 July 2028, to accommodate a "tail risk metric" and an "expected value unserved energy standard" metric.

The AEMC understands the Panel has made its recommendation for further work to consider the form of the reliability standard as:

- Reliability risk will need to be characterised differently as the NEM transitions from a primarily capacity-limited thermal power system to a more energy-limited variable renewable energy (VRE) power system, with a commensurate shift in USE distribution towards greater "tail risk".
- A single average "expected value of USE" metric may not provide sufficient information on an acceptable USE distribution in a high VRE power system nor effectively reflect the NEM's changing reliability risk profile by 2028.
- The existing standard is "risk neutral". It does not provide scope for recognising any possible insurance value of investments to address a higher degree of consumer risk aversion to severe, but low probability, tail risk reliability events.

The Panel has also noted that extensive analysis and consultation is needed before it could recommend a specific change to the form of the standard. The Panel's final recommendation was for a follow-up review assessing particular changes to the form and level of the standard.

2.2. The form of the administered price cap

The APC, combined with the cumulative price threshold (CPT), is a mechanism to minimise financial instability risks to the market arising from an extended period of supply scarcity and corresponding high prices. Once the CPT has been triggered,¹ the APC is intended to limit market prices to a level that restricts any financial stress for market participants while also providing sufficient financial incentives for generation to remain available to the market.

The Panel's final recommendation in the 2022 RSS Review was to increase the APC from \$300/MWh to \$500/MWh to apply between 1 July 2025 to 30 June 2028. The Panel's recommendation was informed by AEMO's market suspension in response to the administered pricing period that occurred between 12 and 14 June 2022.²

In making its recommendation, the Panel identified the potential to change the form of the APC from a fixed to a dynamic value that recognises the link between gas and electricity prices. It considered a dynamic APC may better align the level of the APC with generator variable costs required to maintain sufficient financial incentives for generator availability during APP events. The impact on market certainty and contract markets however required further consideration and consultation prior to a final recommendation.

The Panel also identified several other candidate forms for the APC in the RSS review. These forms, including declining or multi-level APCs, could better balance systemic risk management and incentives for generation and storage operation in a future high VRE energy-limited NEM.

3. Scope of the review and matters for consideration

The AEMC seeks advice from the Panel under section 38 of the NEL on the form of the:

- reliability standard that should apply for the period following 1 July 2028
- APC.

The Panel should only make recommendations to the AEMC for changes that it considers will enhance the National Electricity Objective (NEO).

¹ An APP comes into effect when the sum of market prices over a 7 day period exceeds the CPT, which is currently \$1,398,100. Further information can be found [here](#).

² Further information can be found [here](#).

The Panel should consider the following specific matters about the form of the reliability standard and specification of any appropriate tail risk metric:

- the expected distribution of USE in the NEM given emerging reliability risk drivers associated with high variable renewable generation in a more energy-limited power system
- how to value tail risk outcomes, including whether and how to assess consumer risk aversion to tail risk reliability events
- how AEMO may operationalise an amended reliability standard via AEMO market processes, market price settings, and any relevant jurisdictional schemes (if considered appropriate)
- modelling frameworks and approaches to efficiently model and value tail risk given high levels of future uncertainty.

The Panel should consider the following specific matters about the form of the APC:

- the efficiency of a dynamic index linked versus fixed APC
- how the signals for the efficient operation of storage and other energy-limited plant operate in an APP can be enhanced.
- the impact on different market participants, including customers
- contract market efficiency.

The AEMC does not limit the Panel's consideration of the form of the standard and APC. The Panel may consider any matter it considers relevant including:

- the APC's relationship with the CPT as well as any other potential forms for the APC the Panel considers appropriate, and
- other forms for the reliability standard.

4. Process and timing

The AEMC requests that the Panel conduct its review consistent with the process set out in clause 8.8.3(d - l) of the National Electricity Rules (NER). The AEMC also requests that the Panel publish:

- an issues paper for stakeholder consultation at the commencement of the review
- a draft report and undertake a second round of stakeholder consultation, and
- a final report with the Panel's recommendations.

The Panel may elect to publish and publicly consult on a directions paper or any other additional paper it considers appropriate.

The Panel's final report should be delivered to the AEMC by January 2024, with any relevant rule changes to be submitted as soon as practicable following this date.

The AEMC anticipates that there will be significant interest in the review and requests that the Panel hold at least one public stakeholder meeting during the review. The AEMC also requests that the Panel engage closely with other bodies on relevant matters, including:

- AEMO
- the Australian Energy Regulator
- Jurisdictional Governments (as appropriate).