INFORMATION

Reliability standard and settings review 2018

Publication of final report

The Reliability Panel has published a final report that recommends the reliability standard and reliability settings for the national electricity market (NEM) remain unchanged for the period 1 July 2020 – 1 July 2024.

The Panel considers this appropriate as:

- The existing standard and settings are, in its view, still achieving their purpose and are likely to continue to do so out to 2023/24.
- The present market price cap and cumulative price threshold have been, and are likely to continue to be, effective at limiting market participants' exposure to excessive high prices and maintaining overall market integrity. They are sufficiently high to allow enough investment in generation so that the expected level of unserved energy does not exceed the reliability standard.
- Retaining the current levels of the settings provides regulatory stability which will benefit consumers and market participants, given the extent of the current flux and range of uncertainties – including emissions policy uncertainty – that impact on market participants' long term decisions.

Role of this review

This review examined the market settings: the reliability standard, the market price cap, the cumulative price threshold, the administered price cap and the market floor price. The review must be conducted every four years under the National Electricity Rules to determine whether the market settings remain appropriate for expected market conditions.

The market settings are an integral part of a suite of mechanisms that work together to provide reliability in the NEM. Investment and operational decisions about electricity generation and demand response are made in response to price signals provided by the wholesale electricity market. These wholesale market price signals in turn create signals for participants to enter into contracts, i.e. to *hedge* their exposure to wholesale prices. The market rules also establish mechanisms for the market operator to intervene in the market in extreme circumstances when the incentives, settings and information arrangements may not, or do not, deliver the desired reliability outcome.

The Energy Security Board's proposed National Energy Guarantee and the AEMC's Reliability Frameworks Review are two ongoing pieces of work targeting the broader reliability framework, the former also addressing the policy uncertainty in the sector that has been impacting on investor confidence. If applicable, the Panel could consider the impacts of the Guarantee in a subsequent review, either the next scheduled four-yearly reliability standard and settings review in 2022 or an interim review if instructed to do so by the AEMC.

Modelling for this review

The Panel commissioned consultants Ernst & Young (EY) to undertake wholesale market modelling to inform its decisions about the appropriate levels of market settings for this review. The modelling incorporated the impact of the transformation that is underway in the market due to factors, such as generation from new wind and solar plants. For example, EY based wind and solar generation on weather patterns based on a 12km weather record grid across the entire NEM to calculate the expected generation profile from each plant.

The Panel's final recommendation is to retain the current levels of the reliability standard and settings from 1July 2020 to 1 July 2024

It also factored in the contribution made from behind-the-meter batteries. The modelling also examined the impact of five minute settlement on the required price caps.

Critically in reviewing the standard and settings, the Panel modelled a range of different futures – including different cost paths for renewable technologies and different impacts of uncertainty on investment costs – to test the suitability of the market settings.

The Panel's final recommendations

The Panel recommends leaving the current reliability standard and reliability settings unchanged for the period from 1 July 2020 to 1 July 2024. This final recommendation has taken into account stakeholders' submissions to the review's issues paper and draft report, Panel members' analysis and judgment, and the results of wholesale market modelling assessed against set assessment criteria.

Component and purpose	Current level and recommended level from 1 July 2020
Reliability standard • Expresses the level of reliability sought from the NEM's generation and transmission interconnector assets.	A maximum expected unserved energy in a region of 0.002 per cent of the total energy demanded in that region for a given financial year.
Market price cap • Seeks to maintain the overall integrity of the NEM by limiting market participants' exposure to temporary high prices which could threaten the financial viability of prudent market participants. It should be set at a level such that prices over the long term incentivise enough new investment in generation so the reliability standard is expected to be met. The market price cap is the maximum bid (and therefore settlement) price that can apply in the wholesale market.	$14,200/MWh ($2017)[1]
Cumulative price threshold • Seeks to maintain the overall integrity of the NEM by limiting market participants' exposure to sustained high prices which could threaten the financial viability of prudent market participants. It should be set at a level such that prices over the long term incentivise enough new investment in generation so the reliability standard is expected to be met. The cumulative price threshold caps the total market price that can occur over seven consecutive days.	$212,800 ($2017)[2]
Administered price cap • Seeks to maintain the overall integrity of the NEM by limiting market participants' financial exposure to sustained high prices, while maintaining incentives for participants to supply energy during the period of trading after the cumulative price threshold is exceeded, i.e. an administered price period. The administered price cap is the price 'cap' that applies when the cumulative price threshold has been exceeded.	$300/MWh
Market floor price • Prevents market instability by imposing a negative limit on the total potential volatility of market prices in any trading interval, while allowing the market to clear during low demand periods. It should be set at a level that does not interfere with generators being able to differentiate themselves according to the value they place on being dispatched by bidding at negative prices during periods of excess generation.	-$1,000/MWh

[1] Applying CPI indexation, the market price cap will be $14,500/MWh for the 2018/19 financial year

[2] Applying CPI indexation, the cumulative price threshold will be $216,900 for the 2018/19 financial year.

The role of the market settings

The reliability standard and settings focus on the future performance of the NEM. Their purpose is to:

- Establish the level of reliability consumers can expect from key aspects of the physical system (generators and interconnectors), by setting the reliability standard.
- Protect the long term integrity of the market by limiting the extent to which wholesale prices can rise and fall, to limit market participants' exposure to prices that could threaten the financial viability of a prudent market participant.
- Allow for sufficient investment to provide electricity to the agreed reliability standard.

The Panel is required to review these market settings every four years to examine whether they remain appropriate for expected market conditions.

The Panel is required to review these market settings every four years to examine whether they remain appropriate for expected market conditions. The Panel can recommend changes to these market settings, where it considers this will be in the long term interests of consumers.

Reasons for the recommendations

The reliability standard

The reliability standard is not automatically reassessed every review cycle. This is to provide stability and certainty to the market. Under the *Review of reliability standard and settings guidelines,* the Panel must apply a materiality test to determine if the reliability standard should be reassessed.

Having considered whether AEMO has changed its **value of customer reliability** measure, **changes in the way consumers use electricity**, and the benefits of **predictability and stability**, the Panel does not consider that the materiality threshold for a review of the standard has been met at this time.

The Panel also assessed the following additional matters:

- The potential for upcoming changes in the value of customer reliability due to the growth in the uptake of new technologies
- The costs that may be incurred if the reliability standard was tightened
- Potential changes in the costs of necessary new generation since the 2014 review

The Panel acknowledges there are a number of changes and potential changes to market and regulatory frameworks on foot that could be relevant to investment decisions and therefore could impact the effect of any revised reliability standard for the near term. Stability in market frameworks is extremely important in the current environment.

Further, submissions received during the consultation process considered the current level of the standard was appropriate and supported keeping the reliability standard at its current level. The Panel will continue to work with AEMO, as appropriate, in relation to the concerns AEMO has raised about the appropriateness of the current reliability standard as a mechanism to operationally manage reliability in the power system going forward.

Market price cap

The Panel's final view is that the current market price cap of $14,200 ($2017, indexed annually to increases in CPI) should apply from 1 July 2020, for three primary reasons:

- **The current level of the market price cap is effective at maintaining market integrity** – The market price cap is currently protecting market participants from high prices so as to maintain market integrity.
- **Appropriate investment signals to incentivise demand side capacity or marginal new supply to meet the reliability standard** – The Panel tested the level of market price cap that would be needed to allow for sufficient investment under a range of different futures – including different cost paths for wind and solar generation, the introduction of five minute settlement, and the potential cost impacts of market uncertainty on investment. The Panel concluded the present market price cap is sufficiently high to allow investment in enough generation so that the expected level of unserved energy does not exceed the reliability standard. The Panel also considered the case for lowering the market price cap (jointly with the cumulative price threshold). On balance the Panel concluded that the potential benefits of lower wholesale prices from lowering the market price cap to $13,000/MWh and the cumulative price

threshold to $200,000/MWh do not outweigh the long term risks associated with not having investment signals sufficient to incentivise investment in new capacity to achieve the reliability standard through the review period.

- **The benefits of maintaining regulatory stability, where warranted** – The Panel has assessed changes in the market for impacts on the required level of the market price cap and on balance, holds the view that providing stable and predictable policy outcomes is appropriate.

This final recommendation has taken into account stakeholders' submissions to the review's issues paper and draft report, Panel members' analysis and judgment, and the results of wholesale market modelling assessed against set assessment criteria.

Cumulative price threshold

The Panel's final recommendation is that a cumulative price threshold of $212,800 ($2017, indexed annually to CPI) should apply from 1 July 2020.

Modelling consultants EY recommended that maintaining near to the current ratio of fifteen between the cumulative price threshold and the market price cap delivers a fair balance between limiting exposure to price risk and allowing for sufficient new investment.

As the Panel proposes to leave the market price cap unchanged from its current level in real terms, and given the current 15:1 ratio between the two market settings, the Panel also recommends the current level of the cumulative price threshold of $212,800 ($2017, indexed annually to increases in CPI) apply from 1 July 2020.

Administered price cap

The administered price cap is the price cap that applies while the cumulative price threshold is exceeded. The Panel considers in the current market context retaining a $300/MWh administered price cap reflects an appropriate trade-off between: limiting market participants' exposure to prolonged high prices; incentivising generators to keep supplying electricity while the cap is in effect (by reflecting the short run marginal cost of generators); and limiting the risk of the need for compensation.

The Panel considered the following factors in coming to its final recommendations:

- **Expected short run marginal costs of high marginal cost, low utilisation generator**s – There does not appear to be strong evidence of a substantial, permanent increase since 2008 in the short run marginal costs of low utilisation generators.
- **Minimise costs to consumers** – When the administered price cap is in effect, consumers' exposure is limited to that price, to the extent it is reflected in their retailers' pricing. On the other hand, if a dispatched generator's short run marginal cost is above the administered price cap, they can recover losses through a compensation mechanism. Rather than exposing all consumers to prices close to the highest short run marginal cost of generators, the Panel has set the level low enough so some generators may have to apply for compensation.
- **Fuel price volatility** – Similarly, the Panel considers that generators should use the existing compensation mechanism in the Rules to recover losses where their short run costs are above the administered price cap due to temporary factors, such as short term increases in fuel prices.
- **The benefits of maintaining regulatory stability, where warranted** – Leaving the administered price cap unchanged provides predictability and stability in the NEM, supporting efficient investment.

Market floor price

The market floor price is not automatically reassessed every review cycle and the Panel applies a materiality test to determine if it should be reassessed. The market floor price was not subject to reassessment in this review as there was insufficient evidence that the materiality threshold for its reassessment was met. The market floor price will remain unchanged at -$1,000/MWh, from 1 July 2020. Relevant factors the Panel considered included:

- **Market floor price events** – Market floor price events (and low price events more generally) related to excess generation occur infrequently in the market; over the past eight years a sustained trend has not been observed.
- **Generator cycling costs** –There is no evidence that changes in the generation fleet are causing a significant change in the range of generator cycling costs.

For interested stakeholders, the Panel has also published the final modelling report for this review by consultant EY.

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