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21 July 2025

Australian Energy Market Commission (AEMC or the Commission)
Submitted via AEMC website

Dear Mr Stollmann,

2026 Reliability Standard and Settings Review – Issues Paper

Hydro Tasmania welcomes the opportunity to respond to the Issues Paper for the *2026 Reliability Standard and Settings Review (RSSR)*.

As the National Electricity Market (NEM) undergoes a rapid transformation, it is critical that market bodies evaluate and revise underlying settings in the NEM to ensure they remain fit for purpose in a future system. The 2026 RSSR is a timely and essential review that must consider the evolving characteristics of the NEM. In particular, the review should consider the increasing penetration of variable renewable energy (VRE), the role of long-duration energy storage, and the emergence of new forms of risk associated with prolonged low-VRE periods (so-called "tail-risk" events).

The Reliability Standard and Settings (RSS) have been fundamental to the NEM's regulatory framework since their inception. They play a critical role in influencing investment decisions in an energy-only market and have an important role in ensuring operational and dispatch efficiency, delivering strong incentives for resources to be available in real-time.

The level and shape of the settings have been largely appropriate for the last few of decades while the NEM's resource mix has been dominated by dispatchable coal and gas generation. However, as the drivers and nature of reliability risks in the NEM changes, it is important that the RSS continue to be evaluated to ensure they remain appropriate.

It is Hydro Tasmania's view that the Panel puts strong emphasis on the importance of continuity and consistency for market participants when considering changes to the RSS. It is worth noting that there are still further changes planned to the settings from the 2022 RSSR that have not yet been enacted or felt by the market. The 2022 RSSR recommended a stepped change to the levels of the Market Price Cap (MPC) and Cumulative Price Threshold (CPT) to $21,500 and $2,193,000, respectively ($2021). This was the first significant change to the level of the reliability settings since 2010, although the final implemented increases were lower than the efficient level recommended by the IES modelling. It will be another two years until the MPC and CPT reaches the level put forward in the last settings review. Furthermore, in 2024 the Administered Price Cap (APC) was revised upwards from $300 to $600.

In order to justify a significant change to the level or shape of the RSS there must be clear benefits to the market. Hydro Tasmania supports the broad exploration proposed by the Panel and looks forward to engaging further throughout the review process. In this process, it is our view that there are specific changes to the market settings that warrant further consideration, these are summarised below and discussed further in Attachment 1:

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- **Reliability Standard**: Incorporating metrics such as 'Effective Load Carrying Capability (ELCC)' or 'Loss of Load Expectation' (LOLE) alongside or within the existing unserved energy (USE) frameworks would improve the visibility of emerging risks and better reflect the value of technologies that support system adequacy and resilience.

- **Cumulative Price Threshold (CPT)**: A longer CPT (between 12 and 18hrs) would strengthen the investment incentives for Long Duration Energy Storage (LDES), helping to mitigate increased weather-related reliability risk. An expanded CPT would also deliver increased contracting incentives and preserve market liquidity. Whilst this delivers similar benefits to a stepped MPC (described below), it is Hydro Tasmania's view that a longer CPT would deliver greater market benefits, be simpler to implement, and cause less disruption to the market. We support the Panel in exploring both options, however we believe there may be greater benefit in first ensuring that the length of the CPT reflects the duration of future reliability risks and/or energy shortfalls.

- **Market Price Cap (MPC):** Consideration of the shape of the MPC (such as stepped approaches where early hours could have a higher MPC than subsequent continuous hours). This may help to maintain real-time price signals whilst allowing longer periods of moderate/high prices to strengthen investment signals for LDES.

- **Market Price Floor (MPF)**: Consideration of the shape of the MPF (such as a tiered approached where dispatchable generation has access to a lower floor than semi-scheduled generation) may help to improve dispatch outcomes for scheduled generation, particularly storage providers. This may improve investment signals for these providers and assist in the delivery of system security services during periods of very low operational demand and minimum system load (MSL) events.

- **Administered Price Cap (APC):** Whilst the $600 level of the APC is currently appropriate, a clear escalation pathway/indexation will assist in preventing a repeat of the negative market outcomes in 2022 as a result of the APC being set too low.

Please find our detailed responses to the consultation questions in Attachment 1. We would welcome the opportunity to meet with representatives of the Panel to discuss the above observations. Please contact Dani Williams at danielle.williams@hydro.com.au to discuss any follow up to this letter.

Yours sincerely,

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ATTACHEMENT 1 – Response to Consultation Questions

Question 1: Large-scale VRE, CER and storage is replacing thermal generation

The upcoming four-year period (2028-2032) will see substantial changes within the NEM, including the end of the Capacity Investment Scheme (CIS) and the Renewable Energy Target (RET), several 2030 government targets, and the closure of some significant generators like Yallourn Power Station. Additionally, there are several major new generation projects and increased interconnection also slated for market entry.

Due to the high degree of change forecast for the upcoming period we believe it is important that the RSS provides stability to market participants and that changes are only made if there are significant benefits to doing so. Changes to the settings like expanding the CPT can help to price these emerging risks appropriately and reward assets that can provide dispatchable capacity, firming and energy storage. The AEMC's 2023 *Review of the Interim Reliability Measure* and recent CEIG-Baringa[1] work highlight the growing relevance of tail-risks and the need for dynamic settings.

Question 2: CER and demand implications

As part of the changing generation mix in the NEM, the level of consumer energy resources (CER) is continuing to grow, reducing the visibility and controllability of generation. Increasing CER is a key contributor to the emerging issue of minimum system load (MSL), which is noted in the Paper as a key shift in reliability risk changes. However, as CER is not exposed to wholesale market signals, we believe the RSS is not currently an effective avenue to address this issue.

Question 3: Impact of government policies on reliability settings

Government mechanisms like the CIS are an important complement to the RSS in assisting to derisk new generation. However, these mechanisms are temporary and designed to target specific, time-bound investment problems through out-of-market solutions. This is in contrast to the aims of the RSS, which are to provide long-term in-market investment signals and support operational and dispatch efficiency. Hydro Tasmania believes it is not appropriate to adjust the RSS in light of potential impacts of out-of-market mechanisms like the CIS. These schemes are designed to operate in the

[1] CEIG Baringa Investing in storage: https://ceig.org.au/wp-content/uploads/2024/03/CEIG_Baringa_Investing-in-storage_final-report_V2_0.pdf

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context of existing RSS and adjusting wholesale market settings to retroactively support them may undermine or lessen the effectiveness of these schemes.

Ambitious decarbonisation targets exist across the NEM, at both state and federal level, with many having a legislated target of 2030. Recent world events and inflationary pressures have proven challenging for the renewable transition, with renewable generation buildout in recent years falling below targeted rates. We recommend the AEMC should account for these recent trends when including 2030 targets in their modelling.

As tenders for the CIS and NSW's Long Term Energy Service Agreements (LTESAs) taper off in the late 2020s, there is a risk of a 'cliff effect' in private sector investment unless market-based signals are re-calibrated. A longer CPT and/or a stepped MPC could provide the depth and duration of price signals needed to support LDES as the market transitions away from policy-based support mechanisms.

Question 4: NEM Review

The RSS are critical in incentivising investment over a broad horizon, as well as ensuring operational and dispatch efficiency. We note the overlap between this process and the broader work being undertaken by the Wholesale Market Settings Review Expert Panel (the Nelson Review). However, as an enduring feature of the NEM's energy-only design, it is critical that the RSS are considered through this long-term, underlying lens. The Paper states the intent of the settings is for the market to clear naturally without AEMO intervention. Hydro Tasmania agrees with the Panel in that reflection and believe it is important this review is conducted with this objective forefront of mind. This is particularly important as many options currently being considered through the Nelson Review are predicated on the effectiveness of the NEM's energy only market, which includes strong real-time dispatch incentives, facilitated through the RSS.

If the outcome of the Nelson review requires a reassessment of the RSS, it would be appropriate to consider that at the conclusion of that review. However, Hydro Tasmania believes the 2026 RSSR should be conducted independently and should not presuppose any outcomes from the Nelson review.

Question 5: The level of the Reliability Standard and consideration on VCR

Hydro Tasmania supports the continued use of the Value of Customer Reliability (VCR) as a guidepost for the efficient trade-off between reliability and cost. However, there is increasing evidence that the existing expected unserved energy (USE) standard fails to adequately price long-duration, low-probability events.

In an energy grid dominated by VRE, supply shortfall events are expected to become less predictable, longer in duration, and more correlated across regions. This is consistent with modelling undertaken

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by the AEMC during their 2024 *Review of the Form of the Reliability Standard and APC* and with Hydro Tasmania's internal modelling. Consumer valuation of reliability and their willingness to pay is not static; different types of shortfall events will be valued differently. As the impact and length of low probability 'dark doldrum' events increase, it is essential that this is captured effectively in reliability metrics. A shortfall of the VCR, which forms the basis of the Reliability Standard, is that it only examines outages 12 hours or less.

Whilst Hydro Tasmania notes the form of the Reliability Standard is outside the scope of this review, we believe it is vital that the Panel considers how the changing drivers of reliability risk, particularly duration, correlation across regions, and weather dependency, are reflected in the suite of reliability metrics used to inform investment and system planning decisions.

Metrics such as 'Effective Load Carrying Capability (ELCC)' or 'Loss of Load Expectation' (LOLE) are well-suited to the reliability challenges of a future grid dominated by renewables. These metrics are already used in other energy grids internationally (UK and US), where they inform capacity investment, accreditation, and system planning decisions. Incorporating them alongside or within the existing USE framework would improve the visibility of emerging risks and better reflect the value of technologies that support system adequacy and resilience.

Question 7: Consultation questions on the Market Price Cap (MPC)

The MPC plays a key role in balancing the need to incentivise capacity when it is most valuable to the market without exposing consumer to uncapped price risk. Noting the step change recommended through the 2022 RSSR, which is still yet to be fully implemented in the market, along with the recent move to index the MPC to CPI, it is our view that the level of the MPC is broadly appropriate.

However, we believe there is benefit to exploring options for the shape of the MPC. As thermal generation continues to exit the market, it is important that the MPC continues to provide an effective signal for the types of dispatchable generation that will replace thermal generation. This could include the Panel investigating a stepped MPC, which may better reflect future reliability risks. We understand this could mean (for example) that:

- an MPC above the current level operates for the first 2 or 4hrs (and if during this time a CPT was met then);
- an MPC below the current level would then apply for a longer period (perhaps up to a week); or
- variations and versions of this.

As the drivers of reliability risk changes, we believe it is important to remain open to the possibility of changes in the value or form of market settings so long as the overall investment incentive is retained.

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Question 8: Consultation questions on the Marginal Price Floor (MPF)

Similar to the MPC, the MPF plays an important role in operational dispatch efficiency in signalling times of excess capacity. It is the only market setting that has remained unchanged in recent years, however, as its key purpose is to act as a disincentive, we do not believe that has been an unreasonable outcome. However, with an increasing proportion of the grid as VRE and noting the rise of race-to-the-floor bidding behaviour, we support the Panel exploring whether alternate forms of the MPF would better support a future NEM. This could include a tiered MPF, with a lower floor available to dispatchable generation and a higher floor for semi-scheduled generation. This would complement reforms under 5-minute settlement and align better with the dispatch obligations and value of flexible generation.

Hydro Tasmania does not believe that changing the level of the MPF would substantially impact MSL events. However, a tiered MPF (as described above) may assist in supporting the delivery of system security services during very low-priced periods, an emerging challenge of MSL.

Lastly, Hydro Tasmania is unconvinced on the value of adding a negative CPT. It is our view that the addition of a new market setting would add further complexity with possibly only marginal benefit.

Question 9: Consultation questions on the Cumulative Price Threshold (CPT)

The CPT is an important complement to the MPC in ensuring that consumers are not exposed to long periods of high pricing during extended times of market stress. Additionally, the CPT plays a role in encouraging hedging, along with influencing derivative prices and risk positions of market participants. The higher the CPT, the greater the strength of these incentives and the greater the benefit to market liquidity outcomes. It is important that the CPT continues to provide an effective safeguard in preventing excessive exposure to extremely high prices however we believe that a longer CPT could deliver strong benefits to the market without unduly exposing consumers to excessive prices.

Currently, the CPT is set at 7.5hrs of MPC (over a period of seven days) and is set to increase to 8.5hrs by 2027. Modelling by Baringa[2] and Hydro Tasmania suggests that a CPT that corresponds to 12-18 hours at MPC may more appropriately reflect the reliability risks of a high-VRE grid. A longer CPT would encourage capacity to be available for extended periods of low VRE output and can strengthen the

[2] CEIG Baringa Investing in storage: https://ceig.org.au/wp-content/uploads/2024/03/CEIG_Baringa_Investing-in-storage_final-report_V2_0.pdf

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incentive to invest in longer duration capacity and energy storage. These will be critical energy resources in the future NEM; it is important that the RSS are set at a level and in a form to support their development. As VRE proportion increases in the market, so does the chance of weather-related reliability risk, which can be mitigated by a greater storage capacity in the market, particularly LDES.

Additionally, a longer CPT can also help preserve market liquidity through encouraging increased hedging levels for market participants as well as supporting efficient pricing through periods of market stress. An expanded CPT may also help to avoid abrupt transitions into administered pricing, which can undermine firming investment.

Either a longer CPT or a stepped MPC (or combination) could provide similar benefits in improving investment incentives and operational efficiency, particularly for LDES. However, it is our view that a longer CPT would be more effective in delivering these benefits whilst also being simpler to implement and with less market disruption. We support the Panel in exploring both options, however we believe there may be greater benefit in first ensuring that the length of the CPT reflects the duration of future reliability risks and/or energy shortfalls.

Question 10: Consultation questions on the Administered Price Cap (APC)

It is Hydro Tasmania's view that the intent of the APC is not to drive investment but to provide a last resort safety net that prevents consumer exposure to prolonged high prices and to maintain incentives for generators to supply energy during times of market stress. Under this basis we supported increasing the APC from $300 to $600 in the 2024 *Review of the form of the reliability standard and APC* as it was clear following the market events of 2022 than the APC was set too low in order to meet this objective.

We note the Panel's commentary on the appropriate basis by which to determine the APC. Historically the level of the APC has been based on gas generation cost as the expected marginal producer during times of market stress. As the generation mix changes, this assumption becomes less clearcut. Increasingly marginal generators in these situations are equally likely to be storage providers like batteries and pumped hydro. We note the Panel's commentary about setting an APC based on the costs of these providers, which are opportunity costs. Whilst we support further investigation into the appropriate benchmark upon which to base the APC, we are not convinced opportunity cost will be a viable solution, due to opportunity costs being highly variable, even between similar technologies and at different times of the year. Regardless of the cost basis that the APC is linked to, it is essential that the level it is set at is fair, transparent, and contains a pathway for escalation in order to prevent negative market outcomes as a result of an APC that is set too low.

Question 11: Consultation questions on the indexation of the market settings

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Hydro Tasmania supports the MPC and CPT being indexed annually to CPI. We note the Panel's commentary that the consideration of indexing APC to CPI is out of scope of this review. However, as noted above, we believe it is important that the APC contains a transparent escalation factor.

Question 12: Proposed modelling approach for the 2026 RSSR

Hydro Tasmania supports the high-level approach to the modelling as described in the Paper. Given the importance of the modelling, we suggest that the AEMC use an external third party to undertake independent modelling and analysis to support the Panel's recommendations, in addition to providing guidance and quality assurance to the AEMC modelling. We recommend that the modelling approach:

- Include long-duration, low-probability events (e.g. dark doldrum scenarios),
- Capture regional interdependence and correlated supply scarcity,
- Stress-test the system against multiple tail-risk scenarios,
- Compare revenue sufficiency across MPC/CPT/APC configurations,
- Use both USE and LOLE as reliability metrics, and
- Model commercial feasibility of LDES technologies under current and alternative settings.

We also recommend that the Panel include sensitivity testing of key market changes, including CIS expiry, RET decline, and interconnector failures, to reflect real-world uncertainties.