Reliability Panel
Level 15, 60 Castlereagh Street Sydney NSW 2000
GPO Box 2603 Sydney NSW 2001
T 02 8296 7800
E panel@aemc.gov.au
www.aemc.gov.au/about-us/reliability-panel

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Energy Security Board
Level 15, 60 Castlereagh St
Sydney NSW 2000
By email: info@esb.org.au

Re: Reliability Panel response to Post 2025 market design options – a paper for consultation

The Reliability Panel (Panel) thanks the Energy Security Board (ESB) for the opportunity to make a submission on its Post 2025 market design options – a paper for consultation and congratulates the ESB on the progress on the Post 2025 policy work. The Panel has greatly appreciated the ESB's engagement with the Panel over the course of the review. This has included the Deputy Chair, Mr Swift, attending the Panel's recent April meeting to discuss the relationships between the ESB's work and the Panel's.

As the ESB is aware, the Panel is responsible for monitoring, reviewing and reporting on the safety, security and reliability of the national electricity system. The Panel determines the standards and some of the guidelines used by AEMO and other market participants, with these helping to maintain a secure and reliable power system for consumers. The Panel reviews historical performance of the power system in relation to reliability, security and safety annually. The Panel also reviews the reliability standard and the reliability settings under the NER every four years. On this basis, the Panel offers the following comments on the market design initiatives and issues raised in the ESB's Post 2025 options paper that was recently published.

The Panel reiterates its position from its previous Post 2025 submission

The Panel reiterates the position it set out in its previous submission to the ESB on 19 October 2020:

- The Panel recognises the immediate need for pragmatic, well-targeted operational solutions as well as the need for contestable policy approaches in the medium-term alongside improved power system operations. The Panel supports the use of contestable approaches for essential system services and markets where they can be proven to be beneficial for a particular service given its specific context and nature. Tendering for services rather than a market, for instance, may be more appropriate for some services, particularly depending on the technology options that exist at a particular point in time. The ESB should be encouraged to design markets such that the provision of essential system services can evolve over time alongside technological advances.
- There are fundamental interdependencies between the market design initiatives being considered by the ESB in the Post 2025 project and the Panel's work, particularly the upcoming Reliability standards and settings review (RSSR). The Panel will need to understand the scope and impact of possible reforms under the Post 2025 process before we finalise this review.

The Panel also previously suggested that it may be timely in some areas to compare a breadth of options for their relative efficiency and effectiveness and identify and evaluate duplicative mechanisms. The Panel therefore commends the ESB for doing this in the April Post 2025 market design options – a paper for consultation.

The 2020 AMPR and the importance of essential system services

The Reliability Panel has examined emerging trends affecting reliability and security in its 2020 Annual Market Performance Review (AMPR), observing a number of key trends during the 2019-20 financial year:[1]

- Despite there being no unserved energy, operational management of power system was challenging due to a combination of high peak demand and extreme environmental events (e.g. bushfires) impacting the power system. Increases in unexpected events occurring are presenting challenges for forecasting and operation of the power system. Such events should be considered in future planning.
- Given the change in the generation mix towards more diversified, variable resources, as well as changing market dynamics such as more volatile wholesale prices, the Panel considers that periods where the supply demand balance is tight may continue to occur at a higher rate in traditionally stable periods throughout the year, rather than just in the summer.
- The rapid uptake of distributed energy resources is leading to challenges in managing key elements of system security, including minimum system load, system strength, and inertia and voltage control. It is also presenting challenges, similar to the increases in unexpected events, in accurately forecasting supply and demand in the power system.
- The accelerating uptake of rooftop PV systems is leading to power system security and reliability concerns associated with high penetrations of DER, including inertia and voltage issues, changing ramp rate requirements and the need for emergency controls and critical load management.[2]

The outcomes of the 2020 AMPR support the Panel's position on the importance of the ESB's essential system services workstream and the Panel's focus on ensuring the reliability standard and settings (which will dovetail in with the ESB's RAMS workstream) remain fit for purpose.

As both the ESB and Reliability Panel have stated, the arrangements for system services need to not only ensure that the range of essential system services are available, but also that they are effectively used in a more complex operating environment.[3] The AEMC's package of rule changes on system security is dovetailing with the ESB's work, allowing system security issues that are more urgent in nature to be addressed.[4]

Design aspects of the resource adequacy reform pathway

In its October 2020 submission on the Post 2025 process, the Panel considered that work should be focused on putting in place mechanisms to deliver resource adequacy and essential system services in the wholesale market, rather than through backstop mechanisms.[5] The Panel is therefore particularly pleased that "the ESB considers it is preferrable for the 'heavy lifting' for investment to come through signals in the real time market".[6] Historically, the reliability settings have delivered the reliability standard through the market.

The Panel considers that in terms of thinking through mechanisms that could be put in place to deliver resource adequacy, a number of factors should be considered including the ability for the schemes to

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[1] Reliability Panel, Annual Market Performance Review 2020, p. i
[2] Reliability Panel, Annual Market Performance Review 2020, p. 32. cf. AEMO, 2020 system strength and inertia report, Accessed at: https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/Operability/2020/2020-System-Strength-and-Inertia-Report
[3] Reliability Panel, Annual Market Performance Review 2020, p. 13. and Energy Security Board, Post 2025 Market Design Options – A paper for consultation Part A, 30 April 2021, p. 9. Accessed at: https://esb-post2025-market-design.aemc.gov.au/32572/1619564199-part-a-p2025-march-paper-esb-final-for-publication-30-april-2021.pdf
[4] Reliability Panel, Annual Market Performance Review 2020, p. 13.
[5] Reliability Panel response to P2025 Market Design Consultation Paper, 19 October 2020, p.3.
[6] Energy Security Board, Post 2025 market design options – a paper for consultation part A, p.32

promote resource adequacy, the costs of implementing and administering the schemes, and the potential for unintended consequences such as competition impacts.

The Panel supports the proposal for increased information disclosure on issues impacting resource adequacy, including for mothballing and seasonal shutdowns. Markets will most effectively solve a prospective resource adequacy gap if the gap is visible to the market at the earliest opportunity.

However, the Panel notes that designing these schemes in such a way that promotes transparency but also flexibility will be important. There are many different types of mothballing and so it will be important for such a scheme to be designed in such a way that there is increased transparency, but not in such a way that unintended consequences arise such as inefficiently locking in mothballing outcomes which could negatively affect reliability outcomes in the NEM.

Sequencing and alignment with RSSR

As noted above, there are strong interdependencies between the potential reforms proposed in the Post 2025 process and the work that the Panel is set to undertake in the Reliability standard and settings review (RSSR). The Panel supports working closely together so that the ESB's work on the Post 2025 reforms can mesh appropriately with the Panel's upcoming work on the RSSR.

Understanding what the 2025 market design recommendations will be a necessary precursor for the Panel to successfully undertake its RSSR review. For example, in considering the level of the market price cap it will be important to understand what the form and type the RRO would take given it would likely impact what the purpose of the market price cap is, and potentially the level at which it is set.

We therefore highlight the importance of needing to better understand where these workstreams may be heading in order to consider what the market may look like in order to then consider the form, level and arrangements for the reliability standard and settings. The Panel is happy to work together with the ESB to ensure that the processes dovetail and therefore processes are clear and impost on stakeholders minimised.

The ESB's potential modifications to the RRO also interact with the AEMC's operating reserves rule change processes. It will be important that these interactions are taken into account when working through these workstreams.

The Panel has also recently received submissions on the proposed Guidelines for its upcoming RSSR review:

- Several stakeholders noted the importance that the RSSR considers any Post-2025 ESB reforms, with particularly focus around what a physical resource adequacy mechanism could mean for the reliability standard and settings. The AER commented that they consider it is important the RSSR and ESB reforms align.[7] While the Australian Energy Council commented that a different market cap and market floor would be appropriate if there was a deviation from an energy only market.[8]
- Stakeholders such as EnergyAustralia and the Australian Energy Council wanted clarification around the role of the Interim Reliability Measure. Both of these stakeholders express their views that there should be only one measure of reliability.
- Further, many stakeholders commented that they view regulatory stability as an important outcome of the RSSR. Shell and the Energy Users' Association of Australia highlight their concern that changes within the RSSR at a time of general market uncertainty will result in significant cost increases for

[7] AER, Submission to the Review of the Reliability Standard and Settings Guidelines Consultation Paper, p. 1

[8] Australian Energy Council, Submission to the Review of the Reliability Standard and Settings Guidelines Consultation Paper, p. 1

consumers. This highlights the importance that stakeholders place on a stable investment environment.

Quantitative analysis can help clearly identify intended outcomes

The Panel encourages the ESB to undertake economic modelling to inform its policy recommendations in the Post 2025 process. The Panel is pleased to see that the ESB has proposed to undertake quantitative analysis that "informs the benefits and the costs of the proposed pathways", including modelling on resource adequacy mechanisms.

The Panel notes that there are synergies between the quantitative modelling, for the Post 2025 process and the RSSR, including modelling inputs and assumptions. The Panel is happy to work with the ESB so that consistent assumptions can be adopted.

The Panel also encourages the ESB to consider the increasing price elasticity of demand, driven by likely higher penetration of controllable DER, in its modelling. Technological solutions and new services for managing system security sit across the entire value chain from distribution, transmission and generating assets. Historically, electricity demand has been highly inelastic. However, with higher penetration of distributed energy alternatives and declining costs curves, the price elasticity demand is becoming more elastic. Higher price elasticity may cap what consumers are willing to pay for secure system capacity.

Exploring interactions between mechanisms

The Reliability Panel notes that that the reliability mechanisms proposed in the Post 2025 April consultation paper interact with existing settings to provide a framework that delivers an overall system reliability outcome. The goal of this framework is to optimise reliability and certainty, and to minimise costs of delivering that optimised outcome. It is therefore important that the reliability framework is designed holistically so that the different elements work together.

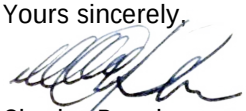
One way that this could be done is by having the settings for any new or modified mechanisms included in the reliability panel's four-yearly reliability standards and settings review. The Panel could determine the strength of the settings (for example, the financial strength of compliance incentives) as part of the RSSR. This would ensure the framework is considered holistically and consistently so that most effective and efficient mix of reliability settings are chosen. The Panel considers this preferable to and more efficient than disparate setting processes for individual components of the reliability framework.

Work programs

The Panel notes that there are three near-term reviews examining reliability frameworks: the current ESB review, the RSSR, and the AEMC's review of chapter 4A of the NER, which is due for completion by July 2023. Ideally, these reviews would form a logically sequenced and contiguous work program. For example, subject to the ESB's recommendations, detailed arrangements could be worked through as part of the AEMC's forthcoming review of chapter 4A of the NER.[9]

Thank you once again for the opportunity to provide a submission. If you have any questions, please do not hesitate to contact me to discuss.

Yours sincerely,



Charles Popple
Chair, Reliability Panel

[9] NER, Rules 11.116.18 and 11.128.12(c).