



17 May 2024

Reliability Panel
Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

RE: REL0086 - Review of the form of the reliability standard and APC

About Shell Energy in Australia

Shell Energy is Shell's renewables and energy solutions business in Australia, helping its customers to decarbonise and reduce their environmental footprint. Shell Energy delivers business energy solutions and innovation across a portfolio of electricity, gas, environmental products and energy productivity for commercial and industrial customers, while our residential energy retailing business Powershop, acquired in 2022, serves households and small business customers in Australia.

As the second largest electricity provider to commercial and industrial businesses in Australia¹, Shell Energy offers integrated solutions and market-leading² customer satisfaction, built on industry expertise and personalised relationships. The company's generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120 megawatt Gangarri solar energy development in Queensland. Shell Energy also operates the 60MW Riverina Storage System 1 in NSW. Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website [here](#).

General Comments

Shell Energy welcomes the detailed analysis undertaken by the Reliability Panel (the Panel) during this review of the form of the reliability standard. We consider the analysis undertaken by the Panel critical to ensure the accurate evaluation of the economic costs that could be imposed on consumers under various forms of the reliability standard. In our view, the costs of reliability to be borne by consumers should be no greater than the costs consumers have indicated they are willing to pay. We therefore support the conclusion of the Panel that the existing standard, which employs an expected average unserved energy (USE) approach, remains fit for purpose and is superior to the alternatives examined. Shell Energy notes the various independent studies undertaken into different forms of reliability standards applied in overseas markets and the additional costs these other forms place on consumers when compared to the NEM's USE standard. It is unclear whether these other forms of reliability standard have achieved reliability outcomes which are better or even on par with those historically observed in the NEM, which further calls into question the value of the additional associated costs.

¹By load, based on Shell Energy analysis of publicly available data.

² Utility Market Intelligence (UMI) survey of large commercial and industrial electricity customers of major electricity retailers, including ERM Power (now known as Shell Energy) by independent research company NTF Group in 2011-2021.

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The robust and thorough analysis undertaken by the Panel highlights the importance of the independent Reliability Panel for the NEM. We consider that the detailed economic analysis undertaken by the Panel in their decision making processes supports balanced outcomes when compared to decisions observed in overseas markets. We recommend a similar approach be applied to the Australian gas markets when determining a reliability standard and associated market price settings. We encourage the Australian Energy Market Commission to advocate for an expanded role for the Reliability Panel within the Australian gas markets. Applying the methodology and rigour from the Panel's approach when determining the gas reliability standard would ensure that consumer costs are central to the decision making process and that reliability is protected at an appropriate cost.

Shell Energy notes the outcomes from the Panel's analysis suggesting that, if a very specific set of artificial circumstances were to prevail, the depth and duration of some USE events could be longer and deeper than those historically experienced and currently forecast. However, we urge caution in arriving at such a conclusion given the significant withdrawal of schedulable and demand side participation capacity required to derive these outcomes in the modelling. As noted in our comments to the earlier directions paper when considering this earlier analysis:

What this does suggest, based on our interpretation of the modelling, is that the level of USE is highly susceptible to the level of firm, dispatchable capacity in the system.³

We remain of the same opinion that whilst a particular modelling scenario may deliver "longer and deeper" USE outcomes, the probability of such an outcome is very low. It is also questionable, in our view, whether it would ever occur. This view is supported by the updated modelling which continues to indicate that the risk of USE remains low and aligned with current reliability assessments in an adequately resourced NEM. This is the case with schedulable flexible supply and demand side capacity even during extended very low wind and solar output (dark doldrum) events. It is clear that the potential for USE events going forward is less about the penetration of weather dependent variable renewable energy and storage resources and more aligned with the level of resources capable of generating electrical energy output or reducing consumption at the appropriate time. This outcome highlights the critical nature of the model input assumptions to any forecast reliability assessment. The use of highly conservative input assumptions can bias modelling outcomes to create a forecast that leads to the perception of the potential for a high impact reliability event whereas, in reality, the probability of such an event is so low as to be negligible.

Shell Energy acknowledges arguments have been presented that it is the duration, how often (frequency) and magnitude (depth) of reliability events that are the key issues that must be considered in assessing the form of the reliability standard. However, in our view this omits the critical factor which is the probability of a reliability event occurring. The Panel has rightly identified that the current USE standard incorporates the measure of all four of these factors, including probability, and that all of the proposed alternative standards to an extent fail to adequately consider the assessment of the probability criteria. The Panel also notes that the proposed alternative standards would provide no appreciable benefit in identifying and managing a potential major supply disruption event compared to the current standard. We support the Panel's conclusions in these areas.

³ Page 2 Shell Energy submission to the Review of the Form of the Reliability Standard Directions Paper.



Similarly, it has been argued that more focus should be applied to the “tail” area of the reliability assessment modelling and that this area of the modelling should receive a higher probability weighting than the normal probability weighting that would be applied to such scenarios. Shell Energy does not support the application of a weighting bias to such outcomes due solely to their potential magnitude (depth), particularly when such low probability outcomes in our view already have a weighting bias applied. This existing bias arises due to the allocation of a 30% probability to the 10% possibility of exceedance (POE) demand outcomes.

We recommend as part of this review that the Panel obtain independent expert advice and consider the following areas with regards to the current reliability assessment modelling.

- Does modelling of only the most likely (50% POE) and more extreme 10% POE demand outcomes remain sufficient to adequately quantify reliability risk going forward. Is modelling of a 30% POE demand outcome warranted to better forecast the shape of reliability risk?
- Do the current weightings applied to the 50% and 10% POE outcomes which are based on the Taylor Number Theorem reasonably represent the probability of occurrence of such events or would an alternative such as the Bayes Theorem provide a more accurate probability representation?
- From an investment signalling perspective, would the NEM benefit from more regular reliability assessment updates via a third year of medium term projected assessment of system adequacy reliability assessment? All the input data currently exists to allow this third year reliability assessment to be produced.

In our view, consideration of these areas by the Panel would fall within the scope of clause 8.8.1(5) of the Rules:

8.8.1(5) report to the AEMC and participating jurisdictions on overall *power system reliability* matters concerning the *power system* and on the matters referred to in clauses 8.8.1(a)(1B), (2), (2C) and (3), and make recommendations on market changes or changes to the *Rules* and any other matters which the *Reliability Panel* considers necessary;

Shell Energy thanks the Panel for its work and analysis throughout this review and supports the Panel’s findings that the current form of the reliability standard remains fit for purpose going forward.

Form of the administered price cap

Shell Energy remains concerned that in considering the form of the administered price cap (APC) the Panel has continued to reflect a short run marginal costs (SRMC) benchmark linked to fuel input costs for peaking generation plant. This approach retains a narrow benchmark definition instead of a more generic benchmark that would allow for consideration of the energy storage costs and round trip losses of battery energy storage systems and pumped hydro.



The Panel also notes that while fuel costs do increase over time, they are volatile and not necessarily well represented by the CPI. This has been evident over the last few years, where fuel price inflation has, at times, significantly exceeded CPI.⁴

Shell Energy would prefer to see more detailed consideration of the potential range of SRMC for energy storage resources when considering if the form of the APC should be subject to annual indexing in the same way as the market price cap and cumulative price threshold. In considering this, we bring to the Panel’s attention the changes in the NSW region pumped storage hydro bidding patterns following declaration of the administered pricing period from trading interval 19:55 Wednesday 8 May to 04:00 Wednesday 15 May 2024 compared with the earlier bidding patterns in May 2024 as indicative of the potential range of SRMC for storage resources. Figure 1 indicates a clear change in bidding pattern during the administered pricing period where bid prices suggest the APC may be insufficient to overcome SRMC for these generators and has the potential to limit deployment of substantial schedulable generating capacity during an administered pricing period.

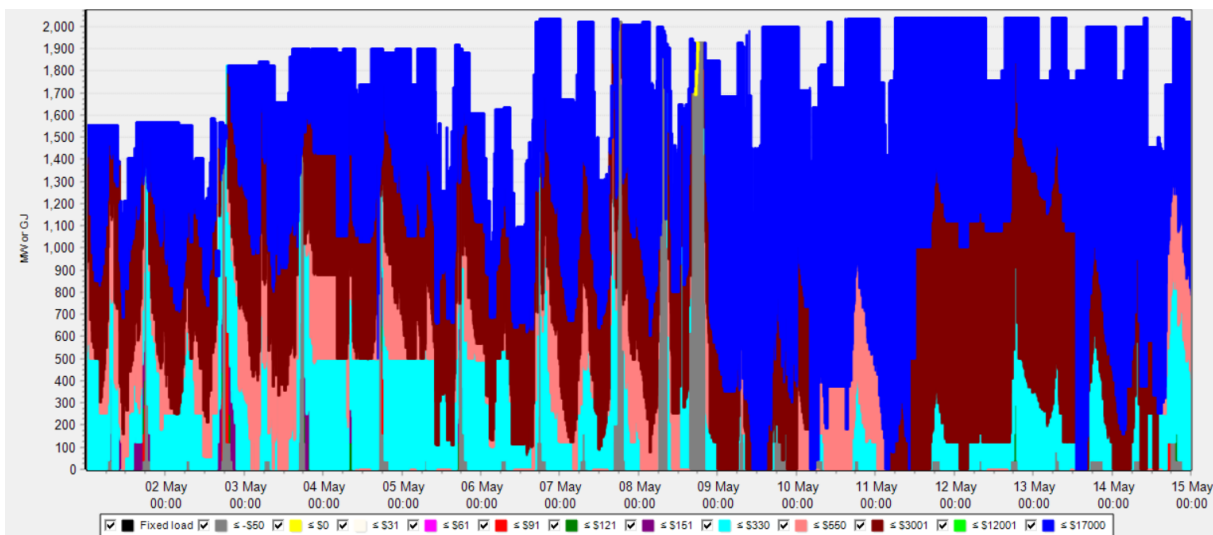


Figure 1: NSW Pumped hydro bidding patterns before and after the application of the administered price cap May 2024

Whilst acknowledging the stated intent to review the level of the APC every 4 years at every reliability standards and setting review (RSSR), as opposed to annual indexing, as being a not unreasonable outcome. However, we recommend the Panel consider whether such an approach may lead to step changes in the level of the APC which in our view may be more detrimental to contract market liquidity than the potential small changes associated with annual indexing. The potential for larger step changes in the APC may result in the withholding of contracts for the threshold year and beyond which are subject to the RSSR until such time as the level of the APC is confirmed. Annual indexing adjustment would be more likely to avoid this risk to market liquidity.

⁴ Page 41 Review of the Form of the Reliability Standard Draft Report



For questions or further information regarding this submission, please contact Peter Wormald
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Yours sincerely

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