



20 September 2023

Australian Energy Market Operator
Level 22, 530 Collins St
Melbourne VIC 3000

RE: 2024 General Power System Risk Review Approach Paper

Shell Energy Australia Pty Ltd (Shell Energy) welcomes the opportunity to respond to the Australian Energy Market Operator's (AEMO) 2024 General Power System Risk Review (GPSRR) Approach Paper (the Paper).

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 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 agrees that it is appropriate to use the 2022 Integrated System Plan (ISP) and its underlying input assumptions for preparing the draft 2024 GPSRR. However, as noted by AEMO, there may be some revised input assumptions from the 2024 ISP input assumptions and scenarios report which warrant inclusion in the modelling. We encourage AEMO to consider updated assumptions where appropriate. Where any 2024 ISP assumptions are used in the modelling these should be detailed in the draft report.

In addition to the actionable network projects listed in Table 2 we recommend that the double circuit loss of VNI West also be considered as part of the 2024 GPSRR contingency risks.³ We base our recommendation on the Victorian Government's Ministerial Order to progress VNI West. While a double circuit loss of VNI West would be an unlikely outcome, similar to Humelink in NSW, its size, connection points and impact on the underlying

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.

³ AEMO, 2024 GPSRR Approach Paper, p14.



Victorian 220 kV network pose similar risks to those shown in Table 8 for HumLink. Further, we also suggest that the double circuit loss of the Western Renewables Link between Bulgana and Sydenham also be considered as part of the 2024 GPSRR contingency risks for similar reasons. We consider that the double circuit loss of either of VNI West or WRL under some circumstances could potentially lead to increased probability of an uncontrolled cascading event and/or supply interruptions.

Shell Energy also supports review of the adequacy of current under frequency load shedding (UFLS) schemes including current UFLS settings. Noting the relatively large size of new interconnector network assets forecast to commission in the National Electricity Market (NEM) prior to 2030, we recommend that as part of this review AEMO consider if more generalised contracted UFLS schemes between 49.5 and 49.0 hertz as part of network support and control ancillary services (NSCAS) contract are warranted. This approach is similar to UFLS schemes in other markets.⁴ Similarly, consideration should be given to NSCAS contracted for over frequency generator tripping or runback schemes.

Contracting for generator runback or tripping schemes may also support the financial contracts market as it would reduce the potential for unit trips due to an uncontrolled Schedule S5.2.5.7 load rejection event on uncontracted units. Shell Energy considers that implementing contracted frequency support schemes outside the normal frequency control ancillary services (FCAS) operating range will add resilience to the power system for non-credible or multiple contingency events because of changes due to the energy transition.

We note the proposed network model set out in section 4.3. Given the significant transition that the NEM is facing both in new network and remotely located generator assets we suggest that consideration be given to expanding the currently planned four mainland regions regional model to a slightly more expansive sub-regional model where critical network flow paths, load and generators are more accurately represented. In our view this will reduce the noted impact of all the limitations of the current model as indicated in the Paper.⁵

Shell Energy notes and agrees with AEMO that mandatory narrow band primary frequency response (MNBPF) in accordance with a generating unit's agreed PFR settings are included in the studies but response from an ancillary services load or generating unit for FCAS is not considered in the studies. We also request that AEMO provide details in the draft report of how the provision of MNBPF was calculated at times of system stress given that generating units are not required to provide headroom, foot room or stored energy reserves for the provision of MNBPF. As such, MNBPF will not be available if these reserves are absent. Additionally, we recommend that having determined the worst-case stress scenarios from the modelling further work then be undertaken to determine if the current methodology for determining levels of FCAS procurement remains appropriate for the future.

Finally, given the critical support provided to the power system by the existing special protection schemes as listed in section 4.6, we agree with and support their inclusion in the modelling.

For more detail on this submission, please contact Ben Pryor, Regulatory Affairs Policy Adviser (ben.pryor@shellenergy.com.au or 0437 305 547).

Yours sincerely

[signed]

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⁴ E.g. Alberta

⁵ AEMO, 2024 GPSRR Approach Paper, p21.