2 February 2023

Mr Andrew Turley
GM Forecasting
Australian Energy Market Operator
10 Eagle Street
Brisbane City, Qld, 4000

Dear Mr Turley

**RE: 2022 Forecast Accuracy and Improvement Plan**

Shell Energy Australia Pty Ltd (Shell Energy) welcomes the opportunity to respond to the Australian Energy Market Operator's (AEMO) 2022 Forecast Accuracy Report ('the Report') and Improvement Plan.

**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 more than 185,000 households and small business customers in Australia.

As the second largest electricity provider to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] 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 thanks AEMO for the provision of the 2022 Forecasting Accuracy Report and Improvement Plan. The Forecasting Accuracy Report and Improvement Plan forms a critical step in ensuring forecasts which feed through to the various reliability assessment reports and the Integrated System Plan have a reasonable level of accuracy and that steps to improve accuracy are implemented when this is shown to be warranted. Given the importance of AEMO forecasts to multiple areas of the National Electricity Market (NEM), Shell Energy recommends that the Report should be subject to independent audit and review prior to publication by AEMO.

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[1] By 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.

The independent audit should then be published as an attachment to the Report. Further, we recommend that the range of this independent audit and review as well as the selection of independent auditor be subject to consultation with AEMO's Forecasting Reference Group.

We note the nominated items in the Forecasting Improvement Plan section of the report and agree that these proposed improvements will be of benefit going forward. In particular, we note and support the proposal to increase the segmenting of analysis of energy consumption to a larger number of consumer classes and types. We also consider that improvements to information provided with Medium Term Projected Assessment of System Adequacy (MTPASA) submissions will improve the ability of AEMO to differentiate between plant failure based, opportunistic or discretionary and economic outages of generating units.

With regards to forecasts for demand side participation (DSP), we note the issues raised in the Report associated with the use of observed outcomes during periods of lower spot price outcomes and recommend AEMO consider if the observation period needs to be extended to ensure periods of higher spot priced outcomes remain within the analysis period. This notes the analysis in the Report that for the Queensland region where higher spot prices continued to be observed, the value of DSP was greater than forecast. Shell Energy and its predecessor ERM Power have previously raised concerns in submissions that the level of DSP in the NEM based on observed and reported DSP dispatch is being under forecast across all regions. We recommend that AEMO consider including a question(s) regarding provision of DSP in their annual survey of large industrial loads.

Shell Energy notes that for a number of regions actual maximum monthly demands during the extended summer period, (November to March), fell either towards the lower end of AEMO forecast range of potential outcomes or in some instances lower than the implied 100% POE value.[3] We consider this demonstrates input assumptions and baselines require adjustments similar to what would be done when actual outcomes sit towards the higher end of the forecast distribution. Simply increasing the value range of expected outcomes would not be appropriate to manage this outcome. While noting the monthly actual vs forecast data provided in the report, we are unaware where this monthly forecast is published by AEMO in advance of the period covered by the forecast and recommend that monthly forecasts, published on an operational "as generated" basis, covering at least the first 5 years of the Electricity Statement of Opportunities (ESOO) be published by AEMO.

As noted in previous submissions, we remained concerned that the 10% POE demand forecasts for the summer period in a number of regions remain high compared to actual observed outcomes. Such an outcome may lead to unnecessary reliability concerns being raised resulting in increased costs for consumers. By way of example, Figures 1 and 2 below show the AEMO published actual monthly maximum operational demand outcomes, (adjusted for RERT dispatch or involuntary load shedding where applicable), from and including financial year 2011/12 compared to AEMO's daily 10 POE and 50 POE operational demand forecasts published in compliance with Clause 3.7.2(f) in the Medium Term PASA. We understand that these published daily values should align with the forecasts used in AEMO's loss of load probability modelling in the various reliability assessments which we note varies from that used in the unserved energy modelling. Absent publication of the monthly forecasts as discussed above, this is the only public data available to stakeholders for more granular actual vs forecast comparisons to be based on.

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[3] AEMO, 2022 Forecast Accuracy Report: Review of the 2021 demand, supply and reliability forecasts for the National Electricity Market, December 2022. Pp 35-60.

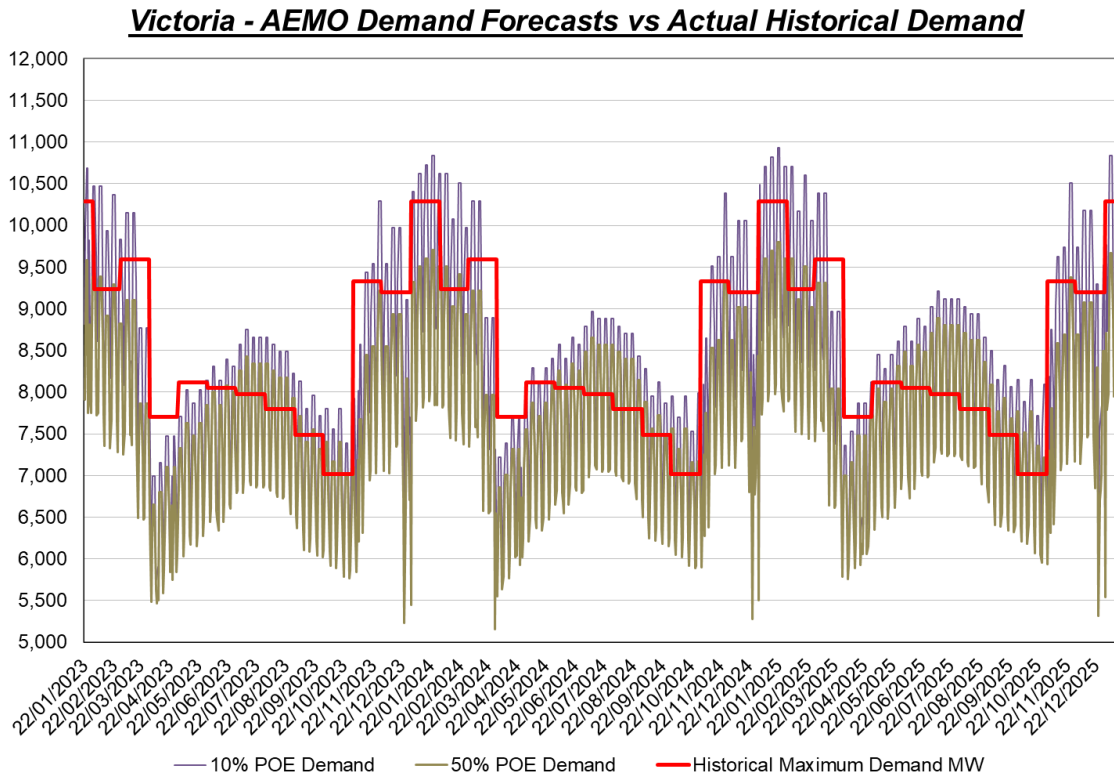Figure 1 – Victoria: AEMO Demand Forecasts vs Actual Historical Demand

**Victoria - AEMO Demand Forecasts vs Actual Historical Demand**



Legend: 10% POE Demand — 50% POE Demand — Historical Maximum Demand MW

Figure 2 – Queensland: AEMO Demand Forecasts vs Actual Historical Demand

**Queensland - AEMO Demand Forecast vs Actual Historical Demand**



Legend: 10% POE Demand — 50% POE Demand — Historical Maximum Demand MW
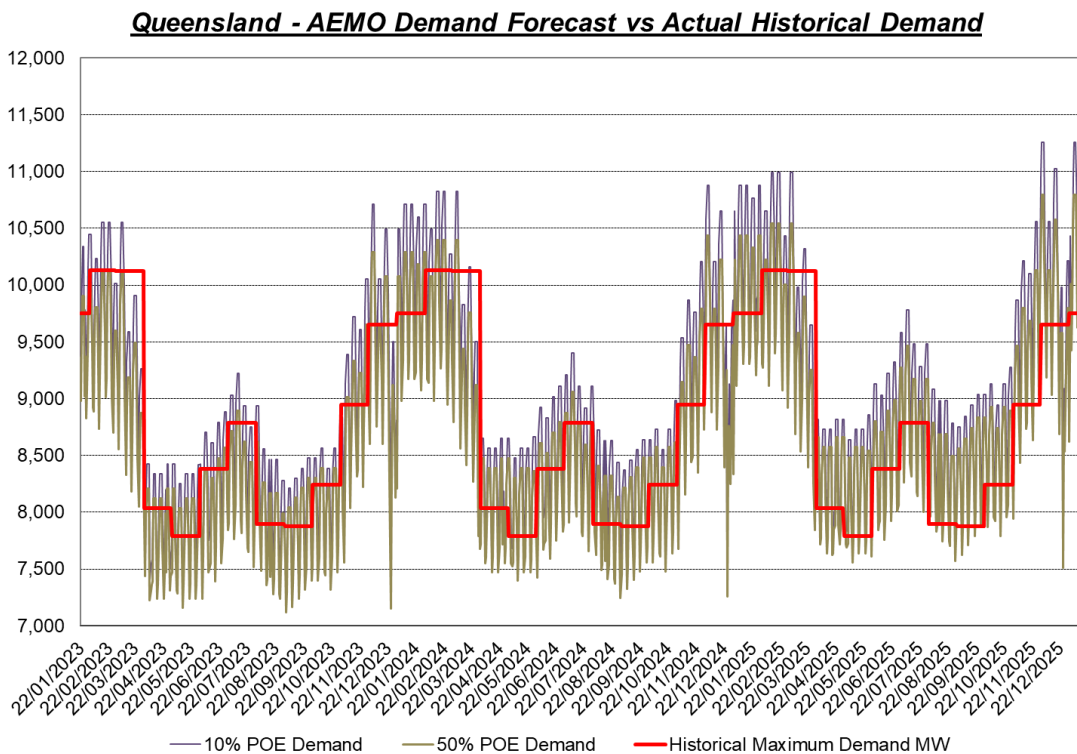
We agree with and support AEMO's decision to review input assumptions and baselines for the winter period in a number of regions and note this may have already been completed as part of the 2022 Electricity Statement of Opportunities (ESOO) reliability assessment.

With regards to the analysis of supply side availability contained in section 6 of the report, Shell Energy considers that truncating the forecast of expected availability across the top 10 demand days but then graphically comparing this to actual outcomes provides an inaccurate understanding of the full range of forecast availability included in the modelling. We recommend that these graphs be amended to show the full range of expected availability outcomes as included in the modelling. We also note and support AEMO's statements that due to low demand and price outcomes observed in a number of regions the availability values as indicated may not accurately represent the true availability of generating units and in some instances generating unit availability may have been higher if required to meet consumer demand requirements. We also consider that the graphs would benefit from the addition of actual demand outcomes during the analysis period shown.

Data provided in Section 7 of the report set out AEMO's forecasts for unserved energy over the summer months. However, the data do not indicate the months contained in the analysis or the AEMO report from which these forecasts were extracted, but we have assumed that it stems from the 2021 Electricity Statement of Opportunities (ESOO) report. We believe this section of the report provides useful information but requires improvements in order to meet stakeholders' needs. We recommend the report be compiled on a monthly basis and set out actual USE compared to forecasts of USE from both the relevant ESOO as well as the latest MT PASA reliability assessment update issued immediately prior to the first day of the month. We consider that improving this area of the report would be beneficial for consumers, market participants and jurisdiction to better understand AEMO reliability forecasts.

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

Yours sincerely

[signed]


Libby Hawker
GM Regulatory Affairs and Compliance