Your ref: ERC0295

8 February 2024

Ms Shannon Culic
Project Leader, Enhancing Reserve Information
Australian Energy Market Commission
Submitted online at: www.aemc.gov.au

Dear Ms Culic

Submission: Enhancing Reserve Information Draft Rule Determination

CS Energy welcomes the opportunity to provide a submission in response to the Australian Energy Markets Commission's (**AEMC**'s) draft rule determination on enhancing reserve information.

About CS Energy

CS Energy is a proudly Queensland-owned and based energy company that provides power to some of our state's biggest industries and employers. We employ almost 500 people who live and work in the Queensland communities where we operate. CS Energy owns and operates the Kogan Creek and Callide B coal-fired power stations and has a 50% share in the Callide C station (which it also operates). CS Energy sells electricity into the National Electricity Market (**NEM**) from these power stations, as well as electricity generated by Gladstone Power Station for which CS Energy holds the trading rights.

CS Energy also provides retail electricity services to large commercial and industrial customers throughout Queensland and has a retail joint venture with Alinta Energy to support household and small business customers in South-East Queensland.

CS Energy is creating a more diverse portfolio of energy sources as we transition to a new energy future and is committed to supporting regional Queensland through the development of clean energy hubs at our existing power system sites as part of the Queensland Energy and Jobs Plan (**QEJP**).

Key recommendations

In response to the AEMC's operating reserve market directions paper, CS Energy supported the development of market and regulatory frameworks that incentivise Market Participants and Australian Energy Market Operator (**AEMO**), respectively, to provide flexible, efficient and adaptive system services. CS Energy therefore recommended that the AEMC consider whether the information now provided to the market could be improved to enable the market to respond effectively to any need for additional reserves. CS Energy also suggested that if the AEMC found improved market signals to be insufficient then it could explore developing the five-minute regulation frequency control ancillary services

(**FCAS**) market to include markets in other timescales. AEMO then would be able to adapt system services' requirements over time in response to the technology changes driven by the transition from fossil fuelled to renewable generating plant.

CS Energy therefore supports the AEMC's draft decision to not make rules to create an operating reserves market. CS Energy also supports the AEMC's proposed Rule amendments to enhance the availability of information relating to operating reserves. The increasing market penetration of non-firm generators and energy storage plant means that Market Participants and AEMO need better information about the availability of all plant if they are to make efficient operational decisions. This is consistent with the advent of five-minute settlement of the energy spot market. Further, the need for information will likely increase with the expansion of the Commonwealth's Capacity Investment Scheme.

Responsibility for providing better information in response to increasingly dynamic NEM operations necessarily must extend beyond obligations on Market Participants and include obligations on AEMO to also provide enhanced information. For this reason, CS Energy has been supportive of AEMO's undertaking to improve the Short-Term Projected Assessment of System Adequacy (**ST PASA**). CS Energy did, however, express in its response to the AEMC's directions paper that there would be considerable benefit if the ST PASA improvements included reporting of forecasting accuracy in operational timeframes, especially during times of tight supply relative to demand. Facilitating improvements in ST PASA forecasting accuracy should then enable improvements to the identification and management of lack of reserve (**LOR**) conditions as LOR declarations are commonly the product of errors in forecasts of renewable plant output or net demand.

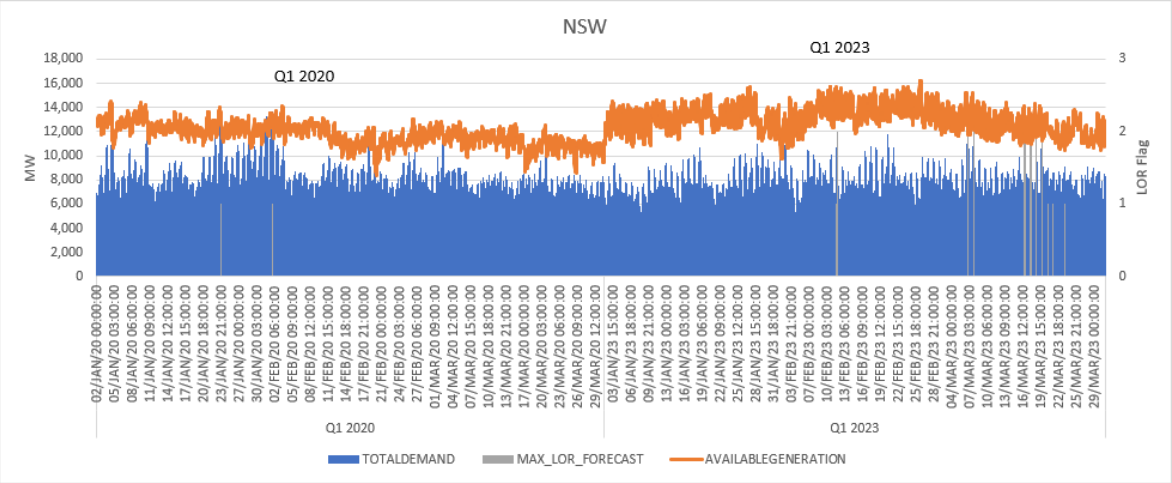
Regular and mandatory ex-post analyses of forecasting accuracy and the consequences for ST PASA and LOR declarations would serve the interests of the market, its Participants and consumers. AEMO or, preferably, the Australian Energy Regulator could conduct and critically review those analyses and the process should include opportunity for other parties to comment on this work before final reports are issued.

An example of forecasting error leading to an LOR declaration occurred in the New South Wales (**NSW**) region over the week ending Friday, 26 January 2024. ST PASA over the seven days leading up to pre-dispatch for Thursday, 25 January, indicated AEMO forecast NSW maximum demand to fall between 13,300 MW and 13,500 MW. On Wednesday, 24 January, pre-dispatch for 25 January initially forecast a maximum demand of 12,934 MW, which was then reduced twice more to sit at 12,148 MW. Actual maximum demand for that Thursday was 11,234 MW, only 92 percent of the maximum demand forecast in pre-dispatch the previous day and only 83 percent of the maximum demand forecast in ST PASA over the preceding seven days.

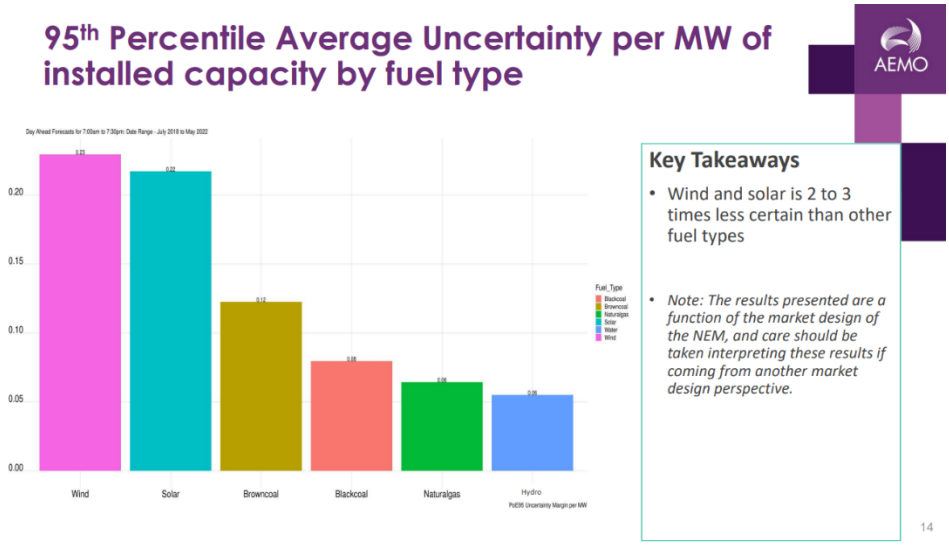
In response to these excessive maximum demand forecasts, over Tuesday, 23 January to Thursday, 25 January AEMO issued market notices declaring LOR1 and LOR2 conditions that were notably inconsistent with the real availability of reserves. The record of LOR declarations does not explain whether a declaration was the result of actually insufficient reserves or of forecasting error. The result is that stakeholders can perceive the market to be delivering less reliability than it does. This is highly undesirable for a market and an industry undergoing an unprecedentedly rapid and highly publicised change in technology.

This event is just one example of an occurrence that has become increasingly frequent in recent years. The chart below shows the incidence of AEMO LOR forecasts for NSW in the first quarters of calendar 2020 and 2023. The incidence of forecast LOR events was significantly greater in 2023 than in 2020, despite NSW having greater generation

availability and lower demand in 2023 than in 2020. CS Energy analysis indicates that this trend coincides with the increasing penetration of wind generation in NSW.



AEMO has previously noted that wind is the largest source of supply forecast error, as shown in the following chart:



Source: [ST PASA Replacement Project, Stakeholder workshop 4 - Uncertainty Margins, July 2022 (aemo.com.au)](), p.14.

AEMO already reports quarterly on its LOR forecasts and actual LOR conditions (AEMO | NEM Lack of Reserve Framework Quarterly Reports) and these reports could be improved to enhance Market Participants' understanding of the NEM's operational conditions including through:

- a precise explanation of how the Forecast Uncertainty Measure (**FUM**) is calculated and a regular detailed presentation of how different forecasting inputs have contributed to the FUM; and
  more detailed elaboration of causal factors in relation to LOR events (rather than stating the fact of its occurrence).[1]

[1]For example, the discussion of actions on 16 March 2023 at page 12 of AEMO's *NEM Lack of Reserve Framework Report 1 January to 31 March 2023* does not explain why LOR conditions were declared.

As the penetration of variable renewable energy deepens and thermal plant closes, the benefits for market operations and investment decision-making of more frequent, transparent and contested reviews of AEMO's forecasts and LOR events are clear. The purpose is not to be critical of AEMO but to establish a reporting and review approach that improves the quality of information available for Market Participants in their decision-making as well as AEMO itself, while clarifying over time the real limits to forecasting accuracy given the NEM's changing generator fleet. Markets can adapt more effectively to changing circumstances if participants have access to information relevant to their operational conditions – the NEM is not an exception.

The issues now apparent in NSW are likely to emerge in other NEM regions. Over the next two to three years approximately 2000 MW of new wind generation will be commissioned in Queensland. A consequential increase in forecast error and, particularly, unwarranted LOR declarations has the potential to incentivise Market Participants to commit thermal plant, arrange the delivery of fuel to gas-fired peaking plant, or to store energy in batteries, only to find their energy is not to be required to meet operational demand. Such events would be highly inefficient and extremely costly for Market Participants and ultimately customers. Improving information and so understanding of the NEM's evolving operational conditions will help avoid such events and maximise Participants' ability to have energy available when it is needed to meet demand.

Conclusions

CS Energy welcomes the AEMC's focus in the draft determination on enhancing the market information provided by Market Participants. CS Energy strongly recommends that the Commission build on this position by acting to increase the transparency and accuracy of short-term plant availability and reserve-related information provided to the market by AEMO. This could be done by requiring the:

- more frequent regular analysis and critical review of ST PASA forecasting accuracy and the effect of those forecasts on the declaration of LOR conditions;
- testing of those analyses and reviews through public consultation on draft reports; and
- publication of reports on the findings of those analyses and reviews.

If you would like to discuss this submission, please contact Don Woodrow, Market Policy Manager, on either 0407296047 or dwoodrow@csenergy.com.au.

Yours sincerely

Dr Alison Demaria
Head of Policy and Regulation