ERM Power Limited
Level 3, 90 Collins Street
Melbourne VIC 3000
ABN 28 122 259 223

+61 3 9214 9333
ermpower.com.au

Wednesday, 19 June 2019

Mr Craig Oakeshott
Director, Wholesale Energy Markets
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Dear Mr Oakeshott

RE: Draft Interim Forecasting Best Practice Guideline

ERM Power Limited (ERM Power) welcomes the opportunity to respond to the Australian Energy Regulator's (AER) draft interim Forecasting Best Practice Guideline (the Guideline).

About ERM Power

ERM Power is an Australian energy company operating electricity sales, generation and energy solutions businesses. The Company has grown to become the second largest electricity provider to commercial businesses and industrials in Australia by load[1]. A growing range of energy solutions products and services are being delivered, including lighting and energy efficiency software and data analytics, to the Company's existing and new customer base. The Company operates 662 megawatts of low emission, gas-fired peaking power stations in Western Australia and Queensland. www.ermpower.com.au

General Comments

The introduction of the Retailer Reliability Obligation (RRO) will have a significant impact on the operation of the National Electricity Market (NEM) and places increased importance on the Australian Energy Market Operator's (AEMO) forecasts of future consumer demand and supply side resources. Whereas previously these forecasts have played a purely informational role, they will from this year play a financial role in the NEM in that they will be the basis from which a reliability gap period can be declared. If AEMO's forecasts project a shortfall in reliability, liable entities – predominantly retailers and some large industrial customers – will need to hold firm capacity contracts for a defined amount of supply capacity. Any potential forecast shortfall will be determined against the reliability standard of 0.002% unserved energy (USE) and converted by AEMO to a reliability gap capacity value in MW. Given the major financial implications of AEMO's forecasts, and their potential to increase overall costs to consumers, ERM Power considers it critical that the determination of the assumptions and methodology underpinning this reliability forecasting is transparent, comprehensive and rigorous and prepared in an unbiased manner.

The AER's Draft Interim Forecasting Best Practice Guideline has been prepared to meet the obligation placed on the AER of clause 4A.B.5 of these proposed RRO rules and to ensure that AEMO's reliability forecast methodology meets the reasonable expectation of participants and consumers concerning the quality and transparency of reliability forecasts and to allow the AER to effectively discharge its responsibilities with regards to the RRO.

[1] Based on ERM Power analysis of latest published financial information.

We envisage the AER's Guideline as helping to ensure that AEMO adequately consults with and responds to stakeholder feedback as they develop inputs, assumptions, and methodologies. To the extent that AEMO achieves this, we believe that the industry can be confident that the forecasting process is transparent, comprehensive and rigorous.

ERM Power therefore supports the AER's Draft Interim Forecasting Best Practice Guideline and offers additional comments in our submission regarding section 3.5 (annual forecast performance review) to somewhat strengthen this section of the Guideline to meet what we believe are reasonable expectations from a participant's and consumer's perspective and an additional suggestion with regards to the frequency of application of the proposed forecasting best practice consultation procedure.

Annual Forecasting Performance Report

ERM Power is pleased to see the AER recommend that AEMO undertake and publish a performance analysis of their forecasts, consistent with the RRO rules. We consider that this is necessary to give industry and policymakers a better sense of to what level of accuracy AEMO's forecasts have performed against actual outcomes.

The RRO requires AEMO to calculate any reliability gap period based on not just the potential gap that could occur on the basis of AEMO's single data point summer and winter peak demand forecasts, but periods which may extend over potentially weeks or months. In considering this we believe it is worth noting how frequently actual demand in each region has exceeded the Medium Term Projected Assessment of System Adequacy (MT PASA) 50% probability of exceedance (POE) monthly demand forecasts. These forecasts are based on the Electricity Statement of Opportunities forecasts on which the RRO reliability forecasts will also be based.

Table 1, based on our own analysis over the past 18 months, shows that for most regions, actual maximum demand regularly falls short of the monthly 50% POE forecasts despite temperature outcomes that would typically suggest high demand outcomes. Over this period, actual working weekday maximum daily temperature outcomes compared to historical records for the regional temperature reference weather station have been recorded above the 95th percentile, or for the winter months, below the 5th percentile of historical temperature outcomes on frequent occasions

Table 1 – Comparison of demand forecasts and temperature outcomes in the NEM, January 2017-present

Region	Percentage of Months exceeding 50% POE demand forecast	< 5th or > 95th Percentile Months (Temperature)
Queensland	33%	17%
New South Wales	11%	56%
Victoria	6%	56%
South Australia	22%	44%
Tasmania	61%	17%

This analysis complements similar analysis undertaken by the Australian Energy Market Commission (AEMC) as part of the Reliability Frameworks Review which also documented an inherent over forecasting bias in AEMO's 50% and 10% POE demand forecasts in the MT PASA.

While the annual 50% POE peak demand figure is relevant for compliance purposes, it is the combination of both 50% and 10% POE estimates over a year which feeds into the forecast level of USE and the length of any reliability gap period. Forecasts could be relatively accurate for the actual peak demand in a year, while overestimating peak demand in other months. It is these monthly estimates which can lead to higher estimates of USE, and longer reliability gap periods than necessary, or ultimately unnecessary reliability gap periods.

We contend that the Guideline should clearly indicate that the comparison of performance of the previous five-year demand forecasts should be undertaken on a monthly basis, as opposed to the current seasonal basis. We believe this will provide confidence to interested stakeholders that any declared reliability gap periods reasonably reflect periods where actual energy shortfalls are more likely to occur.

The current Rules both provide little detail regarding the annual forecast performance review[2], other than it must be prepared on an annual basis. Whilst AEMO has published annual reports, generally these have been fairly cursory in nature and focused solely on power system and weather outcomes on the highest maximum demand point in summer and winter with no cross check on the demand outcomes on the day of the highest maximum temperature outcomes during the summer months or the lowest of the maximum temperature outcome day in winter.

By way of example, the Queensland region exceeded AEMO's 10% POE forecast for summer 2018/19 of 9,761 MW (operational as generated) on 13 February 2019 with a maximum demand of 10,129 MW. On that day maximum temperature at the Queensland reference weather station (Archerfield) was 36.0°C. The maximum temperature demand day at the Queensland reference weather station for summer 2018/19 was 40.2°C recorded on 13 March 2019. Maximum demand for that day peaked at 9,449 MW, 680 MW lower than that recorded on 13 February and below AEMO's 10% POE forecast for the month of March.

The current annual forecast performance review performed by AEMO would only consider the outcome recorded on 13 February as this was the day of maximum demand. It would also fail to consider that outcomes on that day may have been more closely aligned with a 1 or 2% POE outcome, as opposed to a 10% POE outcome due to unusual weather conditions extending across the whole of Queensland.

In addition, there is no data published regarding the values or derivation of the AEMO's 10, 50 and 90% POE temperature reference points or how these values align with historically observed temperature outcomes for the reference weather stations.

We believe that the format and required contents of the annual forecast performance review must be subject to the same forecasting best practice consultation procedure as AEMO's overall forecasting processes. We recommend for clarity that this be included as a clear provision in section 3.5. For instance, we believe that section 3.5 should set out specific requirements on particular reporting areas, including but not limited to:

- the performance of actual generator reported availability for the top twelve demand hours per month compared to the values used in AEMO's forecasts,
- actual monthly peak demand compared to AEMO's 10, 50 and 90% POE forecasts,
- actual monthly maximum (for summer) and lowest of maximum (for winter) daily temperature values expressed in both probability of exceedance terms and compared to historical Bureau of Meteorology (BOM) data.

[2] Clause 3.13.3(u) and 3.13.3A(h)

Additional requirements during reliability gap periods

We also consider it essential that the AER requires AEMO's consultations and forecasting process to include detail on the thresholds used for the start and end dates of a reliability gap period. AEMO's initial approach for the 2019 Electricity Statement of Opportunities is for this to be based on a monthly analysis period and to include months where Loss of Load Probability (LOLP) exceeds either a 2 per cent or 5 per cent threshold. Yet there has been no explanation to date as to why analysis is based on a monthly period or why these thresholds levels are being used. The selection of a monthly analysis period and the use of these thresholds forms an important part in defining over what timeframes a reliability gap period extends.

As noted by the Australian Energy Market Commission (AEMC) in its Enhancement to the Reliability and Emergency Reserve Trader (RERT) rule change final determination, LOLP reflects the frequency of forecast loss of load events but provides no information on the forecast volumes of lost load.[3]

It is the volume of lost load that is directly relevant to USE forecasts and therefore the decision of whether or not a reliability gap period exists. An analysis of the latest forecast LOLP analysis with those forecasts from previous years, as recommended by the NEM Reliability Panel in its advice to the AEMC on the Enhancement to the RERT rule change[4] would present a solid foundation and could feature as part of AEMO's forecasting analysis.

Forecasting Best Practice Consultation Procedures

The Guideline states that the AER considers it best practice for AEMO to act in accordance with the Forecasting Best Practice Consultation Procedures in developing inputs, methodologies and assumptions that underpin AEMO's forecasts. Further, the AER suggests that it will be best practice for AEMO to review its forecasting process applying the Forecasting Best Practice Consultation Procedures every four years, unless there is a material change in market circumstances that justifies more frequent consultation. If a material change has occurred, the AER highlights that AEMO may elect to run the relevant process on only the section that has changed.

ERM Power understands that there is a difficult balance to be struck in determining how frequently AEMO review the Forecasting Best Practice Consultation Procedures to its forecasting inputs, methodologies and assumptions. There is an added burden to AEMO the more frequently this occurs. Conversely, industry is exposed to greater risks if the forecasting inputs, methodology and assumptions are overly conservative and lead to reliability gap periods being declared more frequently and for longer periods. Given the speed with which the NEM is transitioning, and the apparent haste to prepare and issue the reliability forecasts for the initial reliability forecasts in 2019, we recommend that AEMO be required to undertake a review of their forecasting processes using the forecasting best practice consultation procedure two years after the first application of the forecasting best practice consultation procedure and on a four yearly basis thereafter.

Conclusion

ERM Power broadly supports the AER's draft interim Forecasting Best Practice guidelines. We consider that the guidelines as drafted should help meet their purpose: to provide AEMO with guidance and direction in developing its Reliability Forecast Guidelines and on the preparation of its forecasts and to provide confidence to market participants concerning the quality and transparency of reliability forecasts.

We have recommended several changes which we consider would enhance the guidelines and give greater confidence to market participants that AEMO's forecasting process is rigorous, unbiased and transparent.

[3] AEMC, 2019, Enhancement to the Reliability and Emergency Reserve Trader rule change Final Determination, p57.
[4] AEMC, 2018, Reliability Panel advice on the Enhancement to the Reliability and Emergency Reserve Trader rule Change, p6, 28 September 2018.

Please contact me if you would like to discuss this submission further.

Yours sincerely,

[signed]

Ben Pryor
Regulatory Affairs Policy Adviser
03 9214 9316 - bpryor@ermpower.com.au