

23 April 2019

Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Submitted by email to RRO@aer.gov.au

Draft Interim Reliability Instrument Guideline
Reference: 64872 / D19/21562

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Draft Interim Reliability Guideline (draft Guideline) from the Australian Energy Regulator's (AER) in preparation for the Reliability Instrument Guideline (final Guideline).

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market ('NEM') and a leading provider of risk management financial hedge contracts. We are an integrated energy company with more than 5,500 megawatts (MW) of generating capacity. We are one of Australia's largest renewable generators, the third largest generator by capacity and the fourth largest retailer in the NEM through our award-winning retail energy companies - Red Energy and Lumo Energy.

Snowy Hydro welcomes the draft Guideline which sets out the AER's role as an independent entity, to assess and decide on requests from AEMO if it identifies a forecast reliability gap for a region. There continues to be significant issues that need to be resolved with regards to AEMO's forecasting ability in order to provide confidence to the market. It is therefore important that the AER assess forecasts if there are inaccurate assumptions and errors that are material.

The AER's draft Guideline is an important step in providing a sounding board for market participants to regain confidence in the forecasts. Without the detail provided within the Forecasting Best Practice Guideline, which is not yet available for review, it is difficult to identify any relationships or concerns which would require detailed comments across the whole forecasting process for the Retailer Reliability Guarantee (RRO).

Forecasting the reliability requirement

AEMO's Electricity Statement of Opportunities (ESOO) will play a significant role in the RRO through the reliability forecasts in identifying any potential reliability gaps in the coming five years. AEMO's work will be relied on heavily for decision-making, with confidence being gained in the forecasts, if industry provides input and AEMO takes it on board to make the forecasts as accurate as possible.

Snowy Hydro understand that for AEMO it is difficult to measure the accuracy of probabilistic forecasts, especially where they relate to the 'long tail' of distributions. The measures adopted as part of AEMO's forecasting performance monitoring system are therefore likely to require specially developed techniques. The choice of metrics AEMO uses are critical and they need to be properly consulted with market participants. The AER should provide assistance for the treatment of confidential data and the appropriateness of AEMO data.

Market participants must have confidence in the reliability forecast with information that is current and of sufficient quality. The increased climate variability and quantification of uncertainty in the

growth of certain technologies mean that although AEMO makes every effort to ensure the information is accurate over the long term, the likelihood of it being inaccurate is high.

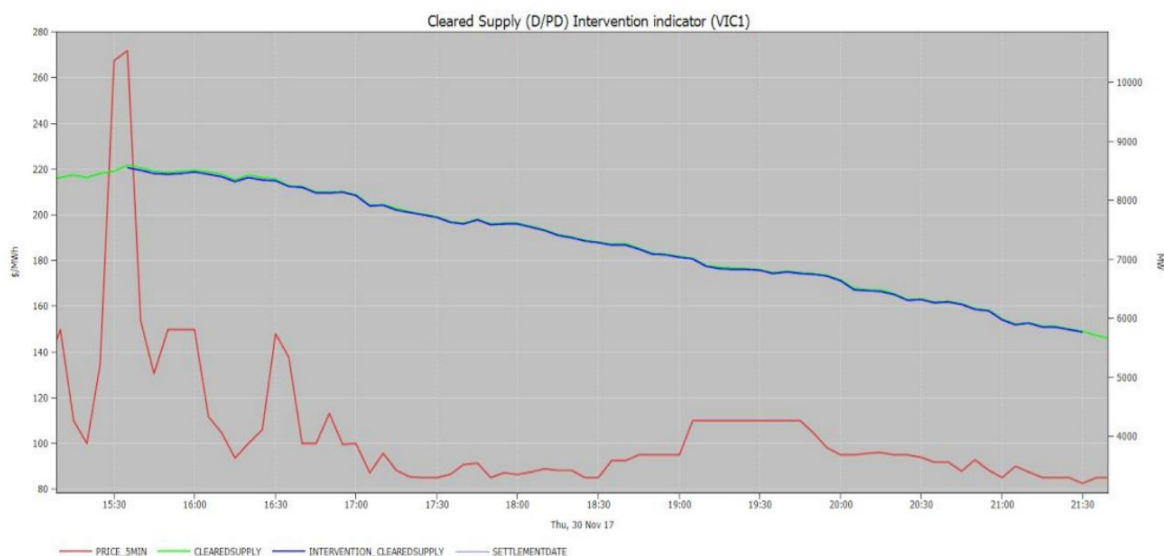
It is important that the AER act as an independent entity to assess and decide on a request from AEMO to trigger the reliability obligation, specifically assessing if there are any inaccurate assumptions and whether there are any material errors. There continue to be significant issues that need to be resolved with regards to AEMO's forecast to provide confidence to the market. It is for that reason that Snowy Hydro supports Rule 4A.C.11 which states that in considering if it is appropriate to make a reliability instrument the AER must only have regard to the following criteria:

- there are no material errors in AEMO's calculations or input data as it relates to the reliability forecast;
- AEMO has not made any assumptions underpinning its forecast data that are inaccurate and which have had a material impact on unserved energy outcomes in the reliability forecast; and;
- AEMO has used reasonable endeavours to prepare the reliability forecast in accordance with the Forecasting Best Practice Guidelines.¹

What are material forecasting errors or inaccurate assumptions?

There have been numerous occasions where there have been material forecasting errors which we would expect the AER Reliability Instrument Guideline to assist if it became an issue under the RRO. In the past, inaccurate demand forecasts have unnecessarily triggered activation of the Reliability and Emergency Reserve Trader (RERT). The need for a forecasting audit was initially displayed in 2017 when the RERT was activated on 30 November 2017. On this day, the RERT remained in place until 21:30 despite demand having dropped by close to 2,800 MW from the time the RERT was initiated. Figure 1 below graphically highlights the cleared supply and price indicating the demand levels the RERT was in place for on 30 November 2017.

Figure 1: Price Dispatch 5min (Intervention) – 30 November 2017²

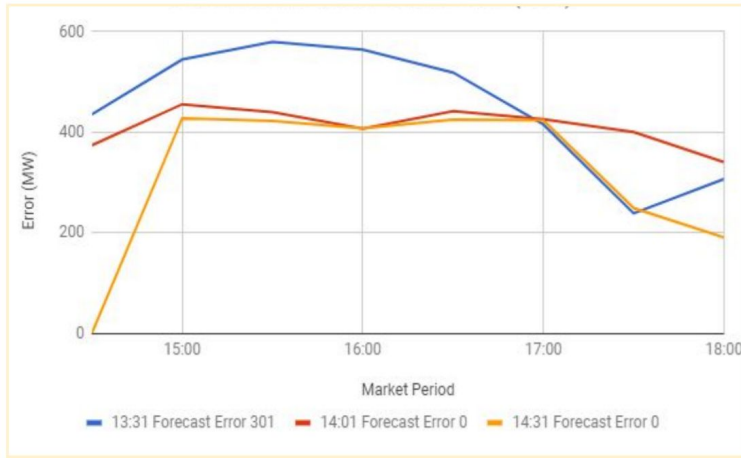


¹ AER, 2019, "For consultation - Draft Interim Reliability Instrument Guideline", pp8

² Snowy Hydro analysis

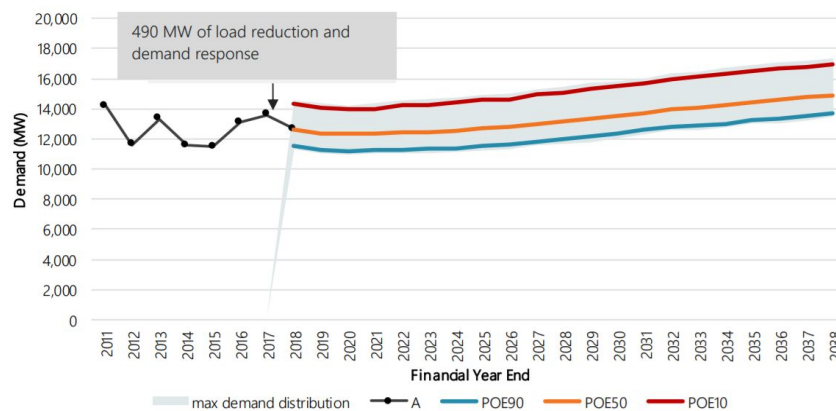
The 19 January 2018 event, then followed when the RERT was again activated for 6 hours, with AEMO significantly over forecasting demand. Figure 2 shows that AEMO's last VIC/SA demand forecast before the RERT was activated was around +550MW in error, and subsequent forecasts were also around +400MW in error.

Figure 2: VIC/SA Demand Forecast Error (MW)



In NSW, demand in AEMO forecasts can vary by 3300MW between the lower bound (95% Probability of Exceedance (POE)) and the upper bound (5% POE), shown in Figure 3 below.³ In regards to maximum demand, AEMO experiences variances up to roughly 5% of maximum demand which AEMO correctly notes is extremely vital when 5% can be the difference between the reliability standard being exceeded in a region or no Unserved Energy (USE) being observed at all.⁴ This increased variability and uncertainty on the demand side make AEMO's task extremely challenging to forecast demand in the long-term.

Figure 3: New South Wales, maximum demand distribution forecast vs historical demand⁵



³ AEMO, 2018, "2018 Electricity Statement of Opportunities - August 2018", << https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2018/2018-Electricity-Statement-of-Opportunities.pdf >>

⁴ AEMO, 2018, "2018 Electricity Statement of Opportunities - August 2018", << https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2018/2018-Electricity-Statement-of-Opportunities.pdf >>, pg82-84

⁵ AEMO, 2018, "2018 Electricity Statement of Opportunities - August 2018", << https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2018/2018-Electricity-Statement-of-Opportunities.pdf >>, pg82-84

We understand the challenges AEMO faces with some of the variances being due to unobservable random consumer behaviour, unpredicted weather changes and other unintended consequences⁶. However, a triggering of the T-3 reliability instrument, even if it doesn't result in a T-1 determination, triggers compliance obligations for the entire industry. Hence the importance of increasing transparency and intentions of demand side into central dispatch processes.

Working with other guidelines

Snowy Hydro will participate in the supporting material to be published alongside the Draft Interim Reliability Instrument Guideline. The release of the Forecasting Best Practice Guideline will provide guidance about forecasting processes to ensure they are undertaken in line with identified best practices and minimum standards.

Until the Forecasting Best Practice Guideline is also released however it is difficult for Snowy Hydro to obtain a holistic view of the guidelines, and identify any interrelationships and conflicts which require detailed comment. The Draft Interim Reliability Instrument Guideline⁷ notes that the AER is reasonably satisfied that AEMO has used reasonable endeavours to prepare the reliability forecast in accordance with the unpublished and unconsulted on Forecasting Best Practice Guidelines.

Snowy Hydro appreciates the opportunity to respond to the draft Guideline and any questions about this submission should be addressed to Panos Priftakis, Regulation Manager, by e-mail to panos.priftakis@snowyhydro.com.au.

Yours sincerely,



Kevin Ly
Head of Wholesale Regulation
Snowy Hydro

⁶ AEMO, 2018, "2018 Electricity Statement of Opportunities - August 2018", <<
https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2018-Electricity-Statement-of-Opportunities.pdf >>

⁷ AER, 2019, "For consultation - Draft Interim Reliability Instrument Guideline"