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Australian Energy Market Operator
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Reliability Forecasting Methodology Issues Paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Issues Paper from the Australian Energy Market Operator (AEMO) on the Reliability Forecasting Methodology.

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 AEMO's consulting on the proposed inputs and methodology to determine reliability forecasts across the NEM. AEMO's work will be relied on heavily for decision-making with confidence gained in the forecasts if industry have the opportunity to input into the process. We appreciate the effort AEMO undertakes in developing its forecasts and consulting with industry, however further clarification is warranted to clarify how the overall reliability forecasting methodology works.

There is a trade-off that exists with the reliability forecasting methodology. If the methodology is too conservative then the Retailer Reliability Obligation (RRO) would be triggered too often and result in significant compliance costs across the whole industry. Conversely, if the reliability forecasting methodology is too laxed then genuine shortfalls in capacity may expose the NEM to increased risk of involuntary load shedding and/or a severe security event. Hence the reliability forecasting methodology needs to balance off these two different impacts.

It should also be noted that the NEM has other forms of intervention mechanisms to address any likely shortfalls in supply. These include the Short Notice and Medium Notice Reliability and Emergency Reserve Trader (RERT), Instructions, Directions, and Mandatory Restrictions. To the extent that these mechanisms can be used to address a reliability or system security issue should be considered in parallel with setting up the stringency of the reliability forecasting methodology.

Transparency

Transparency is important in determining market confidence with forecasts and modelled assumptions presented in a way that clearly identifies the calculation of the forecast gap period. We support AEMO aligning forecasts techniques with other forecasting responsibilities through the Electricity Statement of Opportunities (ESOO) and the weekly Medium Term Projected Assessment of System Adequacy (MTPASA).

The reliability forecasts are a critical input to trigger obligations under the RRO and Snowy Hydro welcomes AEMO engaging stakeholders to ensure the principles that underpin the proposed forecasting approach and the assumptions to be applied incorporate reasonable stakeholder expectations. It is important that AEMO follow the RRO Draft Rules clause 4A.B.5, which cover accuracy, transparency and engagement:

- Forecasts should be as accurate as possible, based on comprehensive information and prepared in an unbiased manner.
- The basic inputs, assumptions and methodology that underpin forecasts should be disclosed.
- Stakeholders should have as much opportunity to engage as is practicable, through effective consultation and access to documents and information.[1]

Participants should be able to replicate the results of forecasts with forecasting expected to impact commercial outcomes and the cost on consumers. The AEMO process should be transparent and reproducible.

One example of the increased transparency required includes AEMO's proposal on Com* projects. The Issues Paper highlights that for the 2019 ESOO and future reliability forecasts, AEMO is proposing not to include Com* projects. According to AEMO, even though construction may have commenced, Com* may be less certain to proceed, particularly if connection approvals have not been provided and thus will not be included[2]. This may be a conversative assumption and it would be appreciated if AEMO could provide more clarity on the basis of its preferred approach.

Generation and storage

AEMO has updated their methodology and assumptions used to model existing and committed new entrant generation and large-scale energy storage. The Issues Paper highlights a greater focus on Forced Outage Rate variability.

The 2018 ESOO used outage parameters calculated on the average of the past three years of data. The reliability forecast will use the same period but instead use each year's outage data individually, with equal weighting. The Issues Paper notes applying successive 1.8%, 3% and 4.2% annual FORs would likely create considerably more Unserved Energy (USE), than a single average 3% FOR, which will bias the outcome.[3]

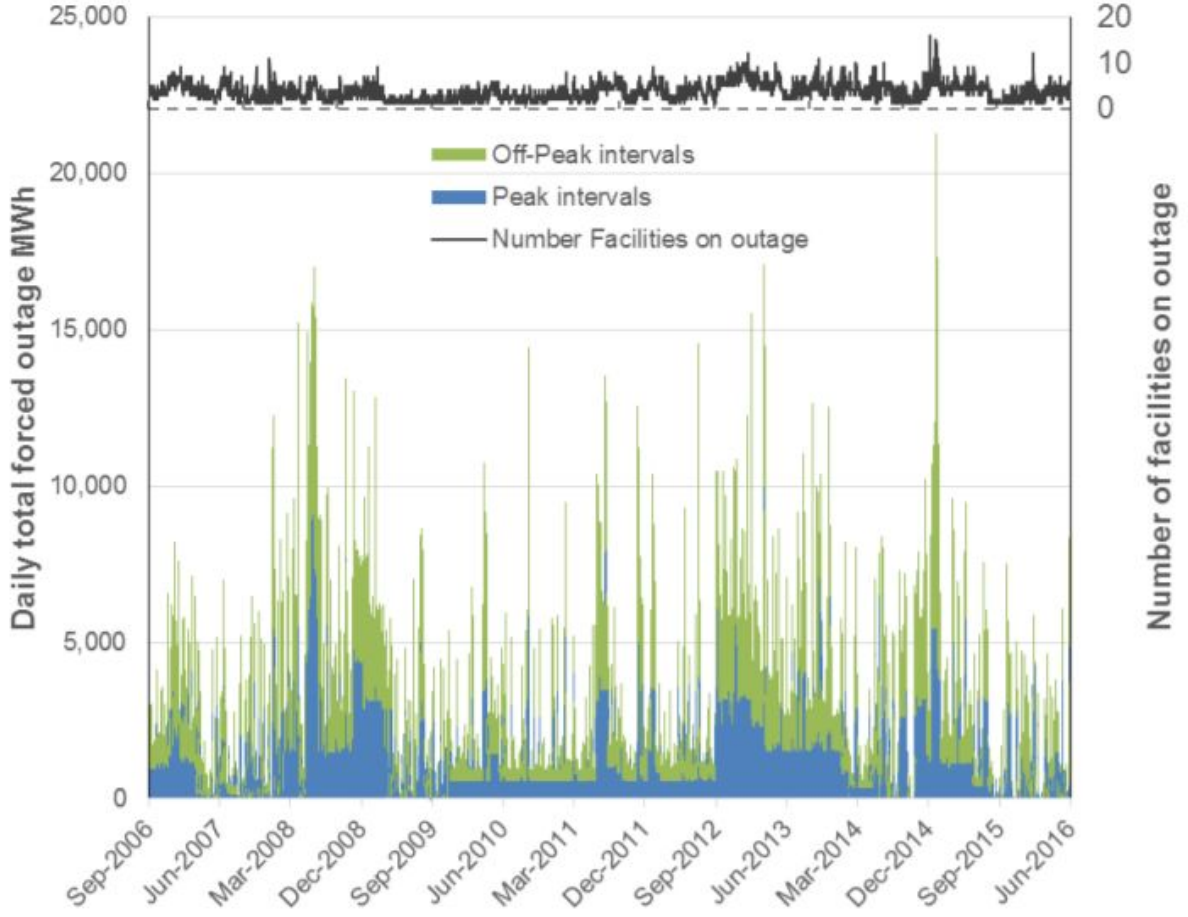
There are a number of considerations that should be taken into account for determining whether the approach described above is appropriate for the reliability forecast. It is important that AEMO understand the historic time series of outage information which will highlight the random variation from year to year of FOR. As shown in the annual WEM report to the Minister for Energy, given the random nature of forced outages, there is no clear seasonal pattern, as occurs with planned outages and no yearly patterns.

[1] AEMO, 2019, Reliability Forecasting Methodology Issues Paper, pp8

[2] AEMO, 2019, Reliability Forecasting Methodology Issues Paper, pp18

[3] AEMO, 2019, Reliability Forecasting Methodology Issues Paper, pp20-22

Figure 1: Daily total quantity of energy subject to forced outage by peak versus off-peak trading intervals[4]



Transmission network

Snowy Hydro welcomes AEMO's proposal to include all existing interconnectors and committed transmission augmentations or new transmission lines that have successfully completed the Regulatory Investment Test for Transmission (RIT-T) in the reliability forecast. Strategic transmission investments will overtime play a fundamental role in ensuring power system reliability and security by allowing the full utilisation of resources. The inclusion of interconnection for highly strategic projects will also be important for the RRO.

Declaring a reliability gap

The impact of any new market mechanisms, such as the RRO and the declaration of the reliability gap, imposed on the existing market needs to be considered carefully to avoid any unintended consequences which are not in the long term interests of consumers.

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 on AEMO's approach in determining a reliability gap period.

[4] Economic Regulation Authority ,2016, Annual Wholesale Electricity Market Report to the Minister for Energy

AEMO's approach which is expected to be applied in determining the T-3 reliability gap period and the likely trading intervals will include the following:

- *Months – the reliability gap will be declared to exist in a month if the Loss of Loss Probability (LOLP24) in that month exceeds 5%. The months will be used to determine the start and end date of the reliability gap period.*
- *Day of the week – within each month that meets the LOLP threshold, weekdays will be declared as being within the reliability gap period. The weekend will be declared as a reliability gap period if the LOLP on weekend days exceeds 2%. The day of the week classification will be used to describe the likely trading intervals of a shortfall.*[5]

A more fulsome explanation for how the LOLP relates to the magnitude and duration of USE would provide more confidence to NEM Stakeholders that the economic trade-off mentioned at the beginning of this submission has been made in the reliability forecasting methodology.

Finally, it is Snowy Hydro's preference that the reliability settings of targeted levels of unserved energy and the market price cap should always be used as the primary investment signals for additional supply and demand side response in the NEM.

Snowy Hydro appreciates the opportunity to respond to the Issues Paper 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,

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Snowy Hydro

[5] AEMO, 2019, Reliability Forecasting Methodology Issues Paper, pp25