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Reinstatement of long notice Reliability and Emergency Reserve Trader

The Australian Energy Council (the Energy Council) welcomes the opportunity to make a submission to the Consultation Paper on the Reinstatement of long notice Reliability and Emergency Reserve Trader (RERT).

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

The Energy Council opposes the proposed rule because:

- Market distortion concerns that led to the discontinuance of long-notice RERT in 2016 remain relevant;
- The reliability outlook for the near term is benign;
- Considerable reserves are available to the short and medium notice RERT from the AEMO - Australian Renewable Energy Agency (ARENA) joint demand response initiative[1];
- The heavy use of RERT in the 2018/19 Summer has increased interest in the mechanism, and as a result the RERT panel which supports the medium and short-notice arrangements is likely to be well populated by experienced providers; and
- Further fast-start emergency reserves are provided beyond the RERT by the South Australian Energy Plan;
- Long-notice RERT is expected to be superseded by the Procurer of Last Resort function in the National Energy Guarantee.

Discussion

Rationale for removal of long-notice RERT

The 2016 rule change withdrew the option of long-notice RERT as it was felt early action by AEMO would compete with the efficient provision of market reserves. The rule change recognised that this would reduce AEMO's options and potentially make procurement more difficult, but that a ten week lead-time represented a

[1] https://www.aemo.com.au/Media-Centre/AEMO-and-ARENA-demand-response-trial-to-provide-200MW-of-emergency-reserves-for-extreme-peaks

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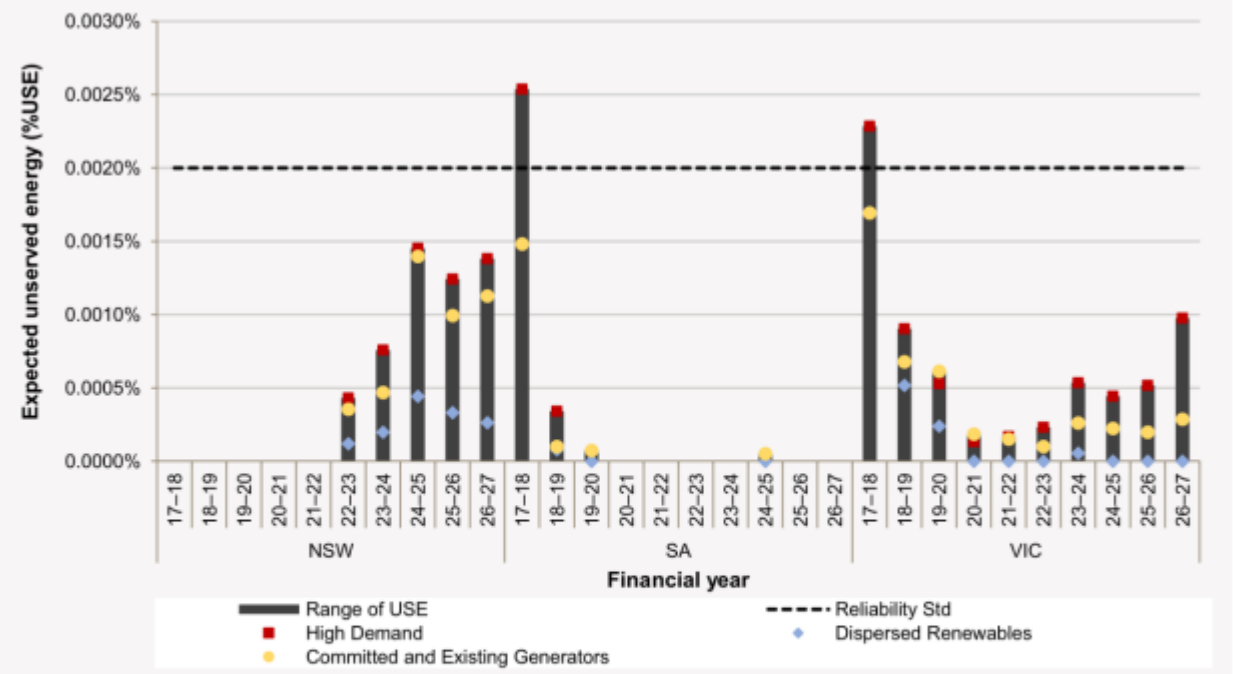
good trade-off between minimising market distortion and the flexibility of AEMO's emergency management. Key to the decision was AEMO's ability to acquire medium and short-notice reserves through the RERT panel.

The Energy Council is concerned that the unprecedented scale of AEMO's contracting of long-notice reserve during 2017 did in fact pre-empt market action. If they had not been engaged by AEMO, many of these options would very likely have operated within the market and therefore this reinforces the rationale for the 2016 rule change.

Current Reliability Outlook

The present reliability outlook is benign. The following graph is the 2017 Electricity Statement of Opportunities (ESOO) outlook. The yellow dots "Committed and Existing Generators" are the correct interpretation of the reliability standard, indicating no region exceeding the standard during the outlook, with conditions in Victoria and South Australia easing after the 2017-18 summer.

Figure 1 Range of USE outcomes linked with key drivers



In this figure:

- **Committed and Existing Generators** shows USE if only existing generators and generation projects that meet AEMO's commitment criteria were operating. Not all potential renewable generation required to meet State and Federal renewable energy targets and the Paris COP21 commitment has been developed in this scenario.
- **Dispersed Renewables** shows USE if, as well as all existing generators and projects meeting AEMO's commitment criteria, additional renewable generation was to be developed to deliver a national renewable generation outcome, leading to greater penetration than can be achieved if geographically concentrated.
- **High Demand** shows the impact on USE if demand growth was in the upper range of expectations, assuming generation was developed according to the Dispersed Renewables pathway. The effect of higher demand on USE would be even greater if modelling assumed only Committed and Existing Generators.

Source: 2017 Electricity Statement of Opportunities

The following graph is AEMO's current outlook for Unserved Energy from its probabilistic MTPASA tool.

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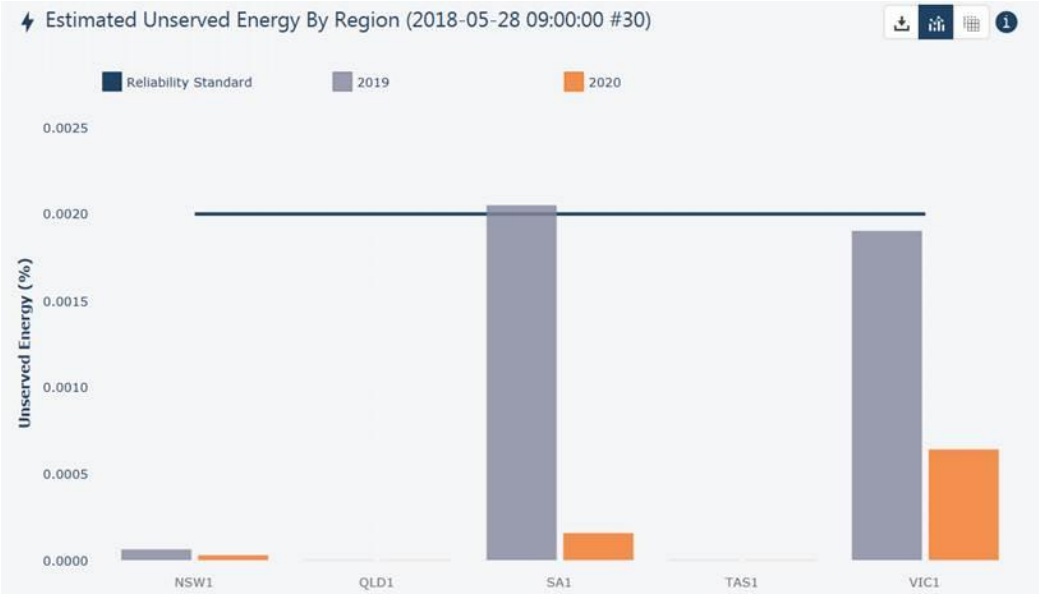

Source: AEMO MTPASA output 28 May 2018

This outlook incorporates the presently bid scheduled plant and is understood to exclude 200MW of reserves available through the ARENA-AEMO initiative, 276 MW of temporary generation provided by the South Australian Government[2] and 70MW of dispatchable capacity available through the Hornsdale battery project.

The outlook shows an immaterial excursion from the reliability standard for South Australia in 2018/19 alone, but not for any other year or region. The "years" relate to the successive 12 month periods beginning at the time the analysis was conducted; i.e. "2019" incorporates unserved energy from June 2018 until May 2019. The South Australian unserved energy outlook is increased by a planned network outage on the Victorian to South Australian interconnector over the 2018 winter period. However this outage has a recall time of 24 hours and can be called upon in lack of reserve conditions. In any event, the timing of this outage is too near for long-notice RERT to be applicable.

For its recent Reliability Standards and Settings Review, the Reliability Panel engaged Ernst & Young to undertake some analysis of the reliability outlook[3]. "Task 1" of this analysis performs a similar analysis as that of the ESOO. The generation is maintained at the present fleet, with known committed projects and planned retirements and AEMO's demand forecasts, and the probabilistic simulation estimates the amount of USE to the end of the review period (2020-21 to 2023-24).

This analysis forecasts USE well within the reliability standard.

[2] http://ourenergyplan.sa.gov.au/gas-power-plant

[3] https://www.aemc.gov.au/sites/default/files/2018-04/EY%E2%80%99s%20Final%20Report.pdf

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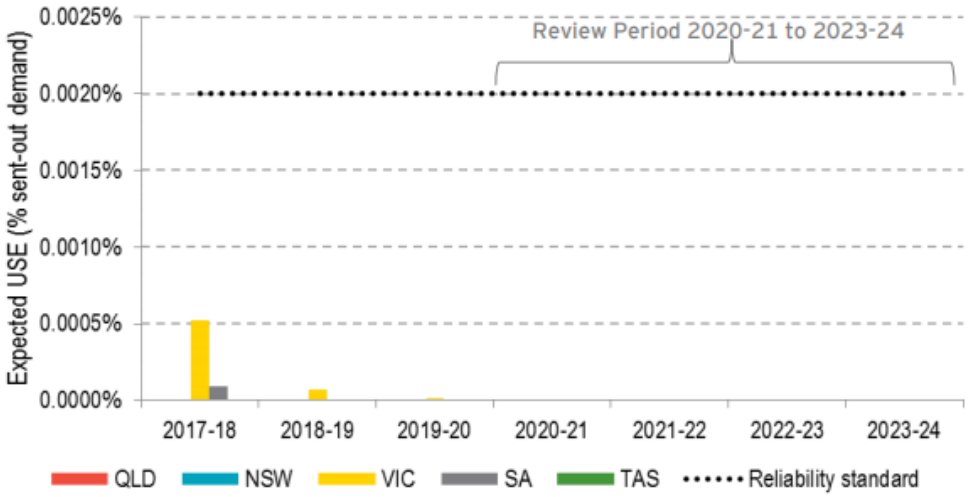
Figure 5: Expected USE outcomes for the Base Scenario from 2017-18 to 2023-24



Source: Ernst & Young Modelling Report for the 2018 Reliability Standards and Settings Review

All three outlooks described above - two by AEMO and one by the Reliability Panel - do not support a need to provide additional intervention options beyond the short and medium-notice RERT.

Interpretation of the Reliability Standard

With respect to the following comments in the consultation paper:

> "AEMO is concerned that in the absence of reserve procurement, there is a risk that the reliability standard may not be met, particularly during a particularly 'peaky' demand year (e.g. under a scenario with extremely high demand) even if, averaged over all scenarios, the projected unserved energy is less than 0.002 per cent (that is, the reliability standard is projected to be met)."

> "The procurement lead time is particularly problematic according to AEMO due to its concerns around load shedding for the 2018-19 summer. For example in respect of Victoria, it is projecting, under its 'neutral' demand growth scenario, that the risk of breaching the reliability standard is nine per cent, and the risk of some unserved energy is approximately 25 per cent."

These views emerge from a misrepresentation of the Reliability Standard. The Standard is expressed as a maximum *expected* 0.002% unserved energy (USE) in any region. This expression recognises and accepts that in some years the target USE may be exceeded. By design, the reliability standard allows for unserved energy to exceed 0.002% during an exceptionally "peaky" simulated year and/or one with multiple simultaneous forced outages. This represents the efficient level of reliability which balances the cost of additional reserve against the cost of customer interruption.

When simulating the power system with a probabilistic tool such as the ESOO or MTPASA, *expected* USE means the arithmetic average of the hundreds of randomly seeded simulations. The frequency of individual simulations above 0.002% has no relevance to the standard. Indeed the statement "the risk of breaching the reliability standard is nine per cent" is incorrect – either the standard is forecast to be met or not met.

Reserves available to the short and medium notice RERT and other emergency arrangements

As the medium notice RERT is limited to contracting ten weeks ahead of the assessed shortfall, it would be expected to rely on reserves readily available to be deployed. The RERT panel was intentionally designed to shorten the period required to contract such reserves by clarifying all technical and legal matters up front before seeking price and availability offers.

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A key concern to the 2016 rule change was that reserve providers had shown limited interest in the panel and therefore in an emergency situation AEMO may not have ready access to sufficient reserves. Nevertheless, the Commission chose to impose the ten week restriction notwithstanding the lack of panel depth at that time.

Since that time the ARENA-AEMO demand-side trial has effectively guaranteed that 200MW of new reserves will be available to the Panel for three years.

Furthermore, the extensive engagement of RERT reserve during the 2017/18 summer will have drawn considerable interest to the mechanism. The Energy Council expects that the panel can now be easily populated with emergent providers who were first contracted during that time.

Finally, the 276MW of emergency peaking generation and 70MW of reserved Hornsdale battery capacity installed as a result of the South Australian Energy Plan have been made available for emergency use in a manner consistent with the provision of reserve via the RERT. This should be considered as 346MW of reserves effectively available to short-term RERT.

Ongoing role of long-notice RERT

The Energy Security Board has proposed that its National Energy Guarantee will incorporate a Procurer of Last Resort function that will perform in a similar manner to long-notice RERT. This will therefore supersede long-notice RERT. If triggered, reserves procured by the Procurer of Last Resort would be available from July 2022. As there appears to be no need for a long-term RERT ahead of that time, it seems unnecessary to re-introduce it three years ahead of its re-abolition.

Question 3 Energy transformation

> "What are stakeholders' views on the changes that have occurred in the market since 2016 that would necessitate the reinstatement of the long-notice RERT?"

Energy market transformation is unrelated to the question at hand. Participants and the Market Operator must adapt forecasting and dispatch systems to incorporate new technologies as they emerge and recognise their impacts upon reliability. The reliability standard relates instead to the economic impact of customer interruption and is not itself altered by the arrival of new technologies. Indeed new technologies provide many new options for in-market resources to help meet the reliability standard without RERT intervention. The greatest challenge is to make sure the forecasting systems do not inadvertently overlook the existence of these material sources of reserve due to their disaggregated nature.

Conclusion

The Energy Council opposes the re-introduction of the long-notice RERT. The rationale for its 2016 removal, being distortion to the energy market, remains contemporary. Further, emergency reserve options, including those available to the short and medium notice RERT, have significantly increased since that time.

The current reliability outlook, when considered against the correctly expressed reliability standard, is benign and any excursion is easily addressed through the short and medium notice RERT and other emergency options presently available.

Finally, a re-introduced long-term RERT would be short-lived, due to the implementation of the National Energy Guarantee.

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Yours sincerely,

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