

9 March 2018

John Pierce
Chair
Australian Energy Market Commission

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Dear Mr Pierce

Reliability and Reserve Trader Rule change proposals

In the context of an energy transformation that presents greater real-time operational challenges, the Australian Energy Market Operator (AEMO) seeks enhanced Reliability and Emergency Reserve Trader (RERT) tools to support the provision of reliable electricity supply.

With this in mind, AEMO seeks the Australian Energy Market Commission's consideration of two rule change proposals seeking changes to the RERT framework as follows:

- Reinstatement of Long Notice RERT provisions in the National Electricity Rules prior to summer 2018-19, while the proposal for an Enhanced RERT is considered; and
- Broader enhancement to the RERT framework.

AEMO requests the rule change to reinstate Long Notice RERT be considered as an urgent rule change. This would require rule changes to be in place by June 2018 to enable AEMO to utilise the Long Notice RERT tool to deliver secure and reliable supply during summer 2018-19, while the AEMC considers the accompanying Enhanced RERT proposal.

Procurement of RERT during summer 2017-18 and the ARENA/AEMO demand response trial highlighted potential improvements to the existing RERT framework. Attached to the Enhanced RERT proposal is a suggested end-to-end High Level Design for the AEMC's consideration, developed in consultation with industry participants during 2017.

I look forward to working with you and your team as you consider these proposals. Please do not hesitate to contact Violette Mouchaileh, Group Manager Market Enhancement, on 03 9609 8551 should you wish to discuss any aspect of the proposals further.

Yours sincerely



Peter Geers
Executive General Manager, Markets

Attachments:

Rule Change Proposal - Reinstatement of Long Notice RERT; Rule Change Proposal - Enhanced RERT; High level Design – Enhanced RERT



ELECTRICITY RULE CHANGE PROPOSAL

REINSTATEMENT OF LONG NOTICE RERT

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CONTENTS

1.	SUMMARY	2
2.	RELEVANT BACKGROUND	3
2.1	Current Framework	3
2.2	Narrative of Issue and proposed changes	Error! Bookmark not defined.
3.	STATEMENT OF ISSUE	5
3.1	Current Rules	Error! Bookmark not defined.
3.2	Issues with the current Rule	5
4.	HOW THE PROPOSAL WILL ADDRESS THE ISSUES	6
4.1	How the proposal will address the issues	Error! Bookmark not defined.
4.2	AEMO Procedure changes	Error! Bookmark not defined.
4.3	Stakeholder Engagement	Error! Bookmark not defined.
5.	PROPOSED RULE	7
5.1	Description of the Proposed Rule	7
5.2	Minor/Consequential Rule Changes	Error! Bookmark not defined.
6.	HOW THE PROPOSED RULE CONTRIBUTES TO THE NATIONAL ELECTRICITY OBJECTIVE (NEO)	8
7.	EXPECTED BENEFITS AND COSTS OF THE PROPOSED RULE	9
	APPENDIX A. DRAFT RULE	10



1. SUMMARY

In the context of an energy transformation that presents greater real-time operational challenges, the Australian Energy Market Operator (AEMO) seeks the necessary tools, including the Reliability and Emergency Reserve Trader (RERT) arrangements to support the provision of reliable and secure electricity supply. The purpose of this proposal is to request the reinstatement of Long Notice RERT provisions in the National Electricity Rules (NER) by mid-2018 to enable AEMO to utilise the full set of tools for summer 2018-19.

In June 2016, the Australian Energy Market Commission's (AEMC) Extension of the Reliability and Emergency Reserve Trader Rule shortened the period over which AEMO can contract reserves ahead of a projected reserve shortfall from nine months to 10 weeks. The change to the rules aimed to minimise any market distortionary effects associated with the RERT's indefinite extension.

Since the rule change's effective date of 1 November 2017, AEMO has been unable to procure reserve beyond a 10-week period. In AEMO's view, a 10-week procurement period does not provide AEMO with a long enough lead-time to include all potential reserve options in the tender process.

Since the AEMC's review, the Australian power system has continued to undergo rapid transformational change with an increasing chance of supply shortfalls. A system once dominated by excess capacity and central large-scale, synchronous power plants and passive consumption is now characterised by a rapid increase in distributed energy resources and wind and solar energy, coupled with retirements of conventional plant. In addition, to manage the risk for 2017/18, AEMO relied on the long notice RERT processes.

To be better equipped to manage these issues, AEMO requests that the AEMC reinstate Long Notice RERT. AEMO requests this rule change to reinstate Long Notice RERT be considered as an urgent rule change to support the delivery of secure and reliable supply during summer 2018-19.

In a separate rule change proposal submitted alongside this proposal, AEMO seeks consideration of broader enhancements to RERT.



2. RELEVANT BACKGROUND

In June 2016, the AEMC made a rule (Extension of the Reliability and Emergency Reserve Trader) to update the RERT framework in the National Electricity Rules (clause 4.8.9 (a)). Since its effective date of 1 November 2017, AEMO has been unable to procure reserve beyond a 10-week period.

To manage the risk for 2017/18, AEMO relied on the long notice RERT processes. This gave the market operator longer lead times to go out to market to procure reserves outside of the market.

In addition to this rule change proposal, AEMO has also submitted a rule change proposal to the AEMC for an Enhanced RERT. Attached to the Enhanced RERT proposal is a suggested end-to-end High Level Design for the AEMC's consideration, developed in consultation with industry participants during 2017.

2.1.1 Current Framework

Under the current regime, AEMO has mechanisms at its disposal to minimise supply shortfalls. One of these mechanisms is RERT. Under the RERT framework:

- AEMO may enter into one or more contracts with any person in relation to the capacity of:
(1) scheduled generating units, scheduled network services or scheduled loads (being scheduled reserve contracts); and
(2) unscheduled reserves (being unscheduled reserve contracts).
- AEMO may determine to enter into reserve contracts to ensure that the reliability of supply in a region or regions meets the reliability standard for the region and, where practicable, to maintain power system security
- AEMO must consult with persons nominated by the relevant participating jurisdictions in relation to any determination to enter into contracts under paragraph (b).
- AEMO must not enter into, or renegotiate, a reserve contract more than 10 weeks prior to the date that AEMO reasonably expects that the reserve under that contract may be required to ensure reliability of supply and, where practicable, to maintain power system security. For the avoidance of doubt, AEMO may negotiate with potential tenderers in relation to reserve contracts at any time¹.

AEMO may procure reserves “to ensure that the reliability of supply in a *region* or *regions* meets the *reliability standard* and, where practicable, to maintain power system security”. AEMO implements the reliability standard in a number of contexts in accordance with the Rules and the Reliability Standard Implementation Guidelines (RSIG).

AEMO also has the power to direct or instruct Registered Participants in order to maintain the power system in a reliable operating state.

As set out in clause 3.8.14, during times of supply scarcity, AEMO must use its reasonable endeavours to ensure a market response, RERT dispatch or activation and directions are undertaken in that order.

In addition to the Rules, AEMO is guided by the Reliability Panel's RERT guidelines. The RERT guidelines cover a range of matters including:

- what information AEMO must take into account when deciding whether to exercise the RERT;
- the relevance of the RERT principles to the exercise of the RERT;
- the actions that AEMO may take to be satisfied that the reserves that are to be the subject of a reserve contract are not available to the market through any other arrangement;
- the process AEMO should undertake in contracting for reserves including the process for tendering for contracts for such reserves;

¹ National Electricity Rules clause 3.20.3 (a) – (d)



- the process AEMO should undertake in contracting for reserves in relation to different notice situations, as described in the RERT guidelines, to ensure reliability of supply and, where practicable, maintain power system security;
- any specific or additional assumptions about key parameters that AEMO must take into account in assessing the cost effectiveness of exercising the RERT;
- matters relevant to AEMO managing a portfolio of reserve contracts; and
- additional forecasts that AEMO should take into account prior to exercising the RERT.

2.1.2 How AEMO implements the Rules

The power system is not in a reliable operating state when load shedding is occurring or expected to occur (NER 4.2.7). The Reliability Standard determines the long-term level of reliability that should be targeted by the market, representing the trade-off between higher levels of reliability and higher system costs. Under the Rules, this is set at an expected level of no more than 0.002% unserved energy for a given financial year. When undertaking long-term assessment of system reliability in the Electricity Statement of Opportunities (ESOO), AEMO calculates a probability-weighted USE assessment, consistent with the RSIG.

Closer to real-time, however, AEMO takes steps during times of supply scarcity to avoid load shedding. If AEMO declares an LOR or low reserve condition (LRC), AEMO is required to determine and publish a notice of any foreseeable circumstance that may require AEMO to intervene and the latest time to intervene. During times of supply scarcity, AEMO must use reasonable endeavours to exhaust market options before exercising RERT. The last resort is further corrective action under NER clause 4.8.9 or section 116 of the NEL. AEMO's objective when exercising RERT is to meet the reliability standard and, where practicable, maintain power system security. The objective of a direction or instruction is for power system security, safety and reliability.

While the rules allow AEMO to direct or instruct a registered participant provided it is available at the time the need arises, the RERT framework allows AEMO to contract for additional (out of market) reserves ahead of a projected reliability shortfall. AEMO is able to activate or dispatch these reserves in operational timeframes to maintain reliability, if a market response cannot be secured.



3. STATEMENT OF ISSUE

3.1 Power system transformation

The Australian power system continues to undergo rapid transformational change. A system once dominated by excess capacity and central large-scale, synchronous power plants and passive consumption is now characterised by a rapid increase in distributed energy resources and wind and solar energy, coupled with retirements of conventional plant. There is continued growth in battery storage, pumped hydro and connected and standalone micro grids and micro markets.

In the environment of transformational change, the market operator should have the necessary tools to manage the system securely and reliably. One of these tool is RERT.

3.2 Issues with the current Rule

The current energy transformation, in which the broader range of energy resources creates variability, places greater challenges on operating the system in real-time. Current projections indicate a heightened risk of load shedding in coming summers, especially in Victoria and South Australia in the near term. AEMO modelling highlights an increased risk of load shedding in 2018-19 and 2019-20 in Victoria and, potentially, South Australia. Even in regions where the projected USE averaged over a broad range of scenarios does not breach the Reliability Standard on a long-term planning basis, AEMO projects that the risk of some unserved energy is high compared with recent levels. For example, in Victoria in 2018-19 under AEMO's "neutral" demand growth scenario, the risk of breaching the reliability standard is projected to be 9%, and the risk of *some* unserved energy is approximately 25%.

Continuation of these conditions, in the absence of reserve procurement, could lead to breaches in the reliability standard one year in ten with load shedding expected every four years. This is most likely during peaky demand years (e.g., 10% POE peak demands) even if, averaged over all scenarios, the projected USE was less than 0.002%.

For the above reasons, AEMO seeks reinstatement of Long Notice RERT by mid-2018. This timeframe recognised the lead time required for AEMO together with the fact the Reliability Panel will need to update its RERT guidelines. While AEMO supports the market operating with minimal intervention, AEMO seeks Long Notice RERT as an additional short-term safety net for the procurement of reserves. Specifically, AEMO considers that the current 10-week period does not provide a sufficient lead time for the procurement of reserve capacity in the most competitive and cost-effective way when it is most required by the market. The length of the procurement period places limits on the range of reserves AEMO can access, acting as a barrier to entry. For instance, diesel and demand response options generally require a longer commitment period. AEMO also considers all relevant tools should be available to AEMO until such time the AEMC considers (as part of the Reliability Frameworks Review and consideration of AEMO's enhanced RERT rule change proposal) the role of RERT/strategic reserve in the market going forward.



4. HOW THE PROPOSAL WILL ADDRESS THE ISSUES

Providing AEMO with nine months to contract for reserves ahead of a projected shortfall would allow for potential participants to make the necessary preparations, such as seeking demand response from consumers, installing any necessary control systems and procuring and shipping diesel gensets.

AEMO's experience with procuring RERT capacity through the ARENA tender process and 2017-18 process demonstrated that significant capacity, particularly from distributed generation and demand-side response, can be procured at low cost if providers are given sufficient notice and the certainty to negotiate with their customers.

The potential for longer contracts would need to be balanced against the risk of drawing reserves out of the energy market – for example, if contracts for reserves are more attractive than those being offered by retailers. This could be managed by AEMO in several ways, including:

- Limitations on resources transitioning from the energy market to RERT. This could include restrictions on resources that had operated in the energy market in the preceding 12 months, as well as asking proponents to demonstrate why they couldn't participate in the energy market.
- Capping the availability payments that can be offered to reserves, thereby encouraging providers to focus on usage costs as their primary revenue stream. This has the added benefits of reducing the ongoing cost of reserves and minimising the potential economic consequences of uncertain forecasts.

Given the reserves are out-of-market and only activated after all market options have been exhausted and prior to load shedding, and the use of intervention pricing during any activations, the price signals for market investment (whether as merchant generation or through signing contracts) would still exist. Reserves would typically only be dispatched during periods of very tight supply-demand, with correspondingly high prices. Firm project announcements would also be considered when determining any reserve requirements or shortfalls.



5. PROPOSED RULE

5.1 Description of the Proposed Rule

AEMO proposes reinstatement of Long Notice RERT. In clause 3.20.3(d), “10 weeks” would be omitted and substituted with “nine months”. A draft Rule is attached as an Appendix.

5.2 Request for Urgent rule change

The AEMC has the ability to expedite a rule change proposal where it forms the view that the request is for an urgent rule.

An urgent rule is one that, if not made as a matter of urgency, will result in imminent prejudice or threat to the effective operation and administration of the wholesale electricity market or the safety, security or reliability of the interconnected electricity system. AEMO requests the AEMC consider this proposal an urgent rule change for the following reasons:

- Not providing AEMO with the appropriate tools in its system operations role by summer 2018-9, in the form of Long Notice RERT, places additional reliability and supply risks on a market already going through a major transformation.
- A 10-week horizon may not be sufficient for AEMO to procure the reserves necessary, should assessment for the 2018-19 or subsequent summers highlight a heightened security or reliability risk that requires mitigation and management through RERT. Since the AEMC’s June 2016 determination (in which it removed Long Notice RERT) a number of conditions in the market have changed, including tighter supply/demand conditions and current and impending withdrawal of plant. These changes highlight how rapidly conditions can change in the current NEM, placing greater need for AEMO, as system operator, to have stronger mechanisms to manage the grid to minimise breaches of the reliability standard.
- AEMO considers the Long Notice RERT framework should be included in its toolkit until such time other market changes – such as the National Energy Guarantee and Enhanced RERT – are reviewed and/or implemented.
- As noted previously, a 10-week period may act as a barrier to parties (not already participating in the market) interested in and able to provide reserve, having an impact on competition and the associated cost of reserves. To enable participation of potential reserve providers in summer 2018-19, AEMO would need Long Notice RERT to be reinstated by mid-2018. This is because providers will require contracts in place with sufficient lead time to put in place associated arrangements – for instance, to acquire land, capital and environmental approvals.



6. HOW THE PROPOSED RULE CONTRIBUTES TO THE NATIONAL ELECTRICITY OBJECTIVE (NEO)

The NEO is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system.

The aspects of the NEO related to RERT are the promotion of the efficient operation and use of electricity services for the long term interests of consumers with respect to price and reliability and security of supply.

AEMO's proposal to reinstate Long Notice RERT is aimed at contributing to the reliable and secure supply of electricity. Reinstating long notice RERT would provide access to additional reserves over and above those already in the NEM. A longer lead time for procurement of reserves would better enable the market to deliver additional capacity, through a tender process that includes a broader range of resources including demand response. This was demonstrated during the AEMO/ARENA trial. The opportunity to include a broader range of resources, in turn, should lead to enhanced competition and lower costs for consumers.

Procuring out-of-market services may raise the risk that resources would be drawn out of the energy market by more favourable conditions offered for RERT capacity. As discussed previously, this could be managed by appropriate caps set on the availability payments, and restrictions on resources transitioning between the energy market and RERT. The second of these is called out in the rules currently.

It has been argued that RERT may have material distortionary effects. AEMO considers this needs to be considered in the context of the counterfactual which is involuntary load shedding. There are economic costs associated with load shedding. The RERT mechanism acts as a last resort to try and differentiate between parties value of reliability. In addition, load-shedding can mitigate risk for retailers through relieving their exposure to high prices, which in turn may weaken the incentives to fully hedge the load for extreme conditions. This may in turn weakens the investment signals. If however the load-shedding is averted through RERT, then the volume risk is preserved, strengthening the market signals.



7. EXPECTED BENEFITS AND COSTS OF THE PROPOSED RULE

AEMO expects reinstatement of Long Notice RERT to provide a stronger safety net to AEMO in its role as system operator. As mentioned above, a nine month procurement period would enable inclusion of a wider range of energy and demand response resources leading to more competitive and cost-effective outcomes for consumers.

Implementing the change would have negligible costs. The change to the rules is minor and AEMO has procurement frameworks in place that can be adjusted to cover the longer period.

Not providing a stronger safety net to AEMO in its system operations role by summer 2018/9, in the form of Long Notice RERT, places additional reliability and supply risks on a market already going through a major transformation. Enhancing AEMO's safety net is preferable to load shedding, which places costs on consumers.



APPENDIX A. DRAFT RULE

In clause 3.20.3(d), omit “10 weeks” and substitute with “nine months”.