AEMC

RULE

Australian Energy Market Commission

DRAFT RULE DETERMINATION

NATIONAL ELECTRICITY AMENDMENT (VICTORIAN JURISDICTIONAL DEROGATION - RERT CONTRACTING) RULE

PROPONENT

The Honourable Lily D'Ambrosio MP, Minister for Energy, Environment and Climate Change, Minister for Solar Homes (Victoria)

19 DECEMBER 2019

INQUIRIES

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Reference: ERC0283

CITATION

AEMC, Victorian Jurisdictional Derogation - RERT Contracting, Draft rule determination, 19 December 2019

ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

SUMMARY

1 This draft rule sets out a jurisdictional derogation to the National Electricity Rules (NER) to provide the Australian Energy Market Operator (AEMO) with the flexibility to enter into multi-year contracts with providers of emergency reserves in Victoria. This will help address the short to medium term reliability challenges facing that state.

2 The derogation is limited to the state of Victoria and will not be permanent. The draft rule also contains robust checks and balances to make sure AEMO only uses multi-year contracts where it considers that emergency reserves will be required for the later years of the contract. These include a trigger linked to forecast breaches of the reliability standard for the first year of a multi-year contract, and detailed and frequent reporting requirements to provide transparency and accountability.

3 The Australian Energy Market Commission (the AEMC or the Commission) has decided to make a draft rule, which is a more preferable rule. The more preferable rule better reflects the enhanced framework for RERT that will come into effect on 26 March 2020. In addition, it reduces the length of the derogation as proposed by the Victorian Government.

4 The Commission also notes that the Energy Security Board (ESB) was recently tasked by the COAG Energy Council to provide advice for decision in March 2020 on immediate measures to ensure reliability and security of the electricity system. The AEMC is working closely with the ESB and other market bodies on this work since this relates to matters considered in this derogation.

The derogation proposal

5 The draft rule was made in response to a rule change request from the Hon Lily D'Ambrosio MP, Minister for Energy, Environment and Climate Change, Minister for Solar Homes (Victoria), to amend the NER to provide for a longer contract duration under the reliability and emergency reserve trader (RERT) mechanism. Specifically, the Minister requested that AEMO be able to enter into long notice RERT contracts of up to three years instead of a maximum contract duration of one year.[1]

6 The Minister asked for the proposed derogation to be treated as urgent so that it could be considered under the expedited rule change process and determined in advance of the 2019-20 summer peak, to assist AEMO in procuring adequate volumes of RERT to cover the forecast shortfall.

7 The rule was initiated under the expedited process. However, following valid objections to the rule being treated as urgent, the derogation proposal is now being assessed under the standard rule making process. In recognition of the Victorian Government's concerns about reliability in Victoria this summer, the Commission is working to deliver all milestones in the fastest timeframe possible. Due to the required consultation timeframes under the National Electricity Law (NEL), the final rule will not be made for the 2019-2020 summer. The

1 Long notice RERT contract duration will extend to 12 months on 26 March 2020, up from 9 months, with the incoming changes under the Enhancement to the RERT rule change.

Commission notes that AEMO has advised in its submission to the consultation paper that, at the time of writing the submission, it had "procured the RERT it needs in preparation for the coming summer period". However, AEMO also notes in its summer readiness plan that it is continually assessing forecasts and the need for out of market reserves.

The reliability challenges facing Victoria

8 AEMO has concluded in various recent reports that a key risk in the National Electricity Market (NEM) in short to medium term regarding reliability is the increased likelihood of the occurrence of coincident events over peak summer periods arising from extreme summer temperatures. The key coincident events include unplanned generator outages, high demand and low renewable generation. For instance, AEMO states "the risk of supply interruption is primarily driven by increased vulnerability to climatic events such as extended periods of high temperature, corresponding with low wind and solar availability and unplanned generation outages"[2].

9 Based on feedback from submissions, recent reports by AEMO and the Australian Energy Regulator (AER), and the Commission's analysis, the Commission considers there are challenging reliability issues facing Victoria in the short to medium term.

10 In particular, the Commission notes the AER's assessment that Victoria has a tight supply and demand balance[3] and this will make Victoria particularly vulnerable to uncontrollable, high impact events.[4]

11 The Commission has considered the argument made by the Victorian Government in its derogation proposal, that significant reliability risks arise in Victoria as the region's dispatchable generation fleet comprises a relatively small number of ageing brown coal generators, which are becoming increasingly unreliable. The Commission notes that AEMO has recently concluded that:[5]

> The biggest discrepancy between the [NEM generators'] long-term outage rates and performance in recent years is for brown coal, where recent forced outage rates sit well above the long-term average.

12 While the Commission recognises that new investment in more generation will help support reliability in Victoria, the state's 2,200 MW investment pipeline comprises mainly large-scale wind and solar projects and a 20 MW of large scale battery (for full commercial use by July 2021).[6] No new dispatchable generation is identified by AEMO into the longer term.[7]

13 Regarding the two to five-year time horizon, AEMO's assessment is that:[8]

> The new renewable generation coming online makes only a small improvement to the

2 AEMO, *Summer 2019-20 Readiness Plan*, December 2019, page 16
3 AER, *State of the Energy Market 2018*, p. 103.
4 AEMO, ESOO, p. 103.
5 AEMO, 2019 ESOO p. 67.
6 AEMO, 2109 EEAP, Appendix, committed and Com* projects.
7 AEMO, 2019 ESOO, p. 70.
8 AEMO, 2019 ESOO, p.103.

reliability outlook. Victoria, in particular, remains vulnerable to uncontrollable, high impact events such as prolonged or coincident generator outages, as experienced last summer and again in winter 2019.

14 As noted by AEMO, the January 2019 Victorian load shedding event demonstrated that this particular combination of events can have significant consequences for Victorian residents, especially when they can result in load shedding events that are widespread and occur on consecutive days.[9]

15 Over the short to medium term, the current suite of risks to reliability in Victoria may change, and AEMO is continually assessing and updating these risks.

16 As well as market forces driving change, as noted by a number of stakeholders, the Retailer Reliability Obligation (RRO) is a key mechanism focussed on the short to medium term that, if triggered, can facilitate an in-market response. If the RRO is triggered, then it will require retailers to enter into sufficient contracts to meet their share of expected system peak demand. Retailers can choose to contract with any form of generation, for example, solar, hydro, gas, coal and batteries. However, the 'firmer' the contracted generation source is, the greater its contribution will be to meeting their obligation. This will provide an incentive for market participants to increase contracting levels with existing participants as well as to invest in the right technologies in regions where it is needed, to support reliability in the NEM.

AEMO requires flexibility to procure adequate RERT to manage reliability issues in Victoria

17 The Commission notes that while out-of-market responses to reliability challenges are not ideal, they are necessary as a last resort should the market fail to respond. For these coming few years, if there continues to be a lack of investment in dispatchable generation and/or substantial storage in Victoria, then this could lead to a lack of in market reserves.

18 The Commission has concluded that, given the current circumstances in Victoria, multi-year contracting could provide more flexibility for AEMO to procure emergency reserves in order to minimise the likelihood of involuntary load shedding.

19 Additionally, the Commission notes that a substantial portion of AEMO's RERT for Victoria for this summer is 64 MW from the AEMO/ARENA demand side participation trial. If AEMO were to need similar volumes in future summer peaks, this may not necessarily be available beyond November 2020, since this is when the trial concludes. The Commission also recognises that adequate volume also pertains to having the right mix of RERT types, covering the required lead times, times of availability and duration of supply.

20 The Commission considers the challenging reliability issues in Victoria will extend beyond the 2019-2020 summer peak, and notes the RRO is now only able to be triggered to address reliability issues at T-3 (i.e. in 2023-2024). The Commission considers that the Victorian Government's concern about the reliability risks in Victoria is understandable, especially

9 AEMO submission to the consultation paper, pages 3-4.

considering that the consequences of generator outages during peak demand periods can include widespread involuntary load shedding over multiple days.

Multi-year contracts may enable AEMO to procure RERT at a lower cost in certain circumstances

21 The Commission considers that allowing for multi-year contracting in Victoria to address reliability shortfalls for a limited time in certain circumstances could lead to lower costs of emergency reserves.

22 Spreading upfront costs over three years under a multi-year contract could result in lower direct costs per MWh than under one-year contracts. To elaborate on reports by RERT providers and the Victorian Government in its proposal, AEMO has provided the Commission with confidential information on the unsuccessful offers to the long-notice RERT this year. This data demonstrates that if multi-year contracts were allowed, then the direct costs of these suppliers could be lower, providing AEMO with more options and choice for what long-notice RERT contracts to enter into it.

23 However, care needs to be taken when comparing multi with single-year contracts. Contracts have different cost structures; differences in availability costs are likely to be more relevant than differences in activation costs. Also, if emergency reserves are not needed in years two and three of a multi-year contract then it would not be more cost effective.

24 Given acquiring emergency reserves under a multi-year contract can lead to lower direct costs for consumers, and as there is a likelihood that the RERT may be needed for the coming few years in Victoria, the Commission is of the view that multi-year contracting could be a useful tool for AEMO to have at its disposal for a limited time to procure the volumes of RERT it needs to minimise load-shedding at a minimal cost to Victorian consumers.

The draft rule should contain checks and balances to make sure multi-year contracting is only used where it minimises costs to consumers

25 The Commission shares stakeholder concerns that allowing multi-year contracts may have the potential to lead to increased direct costs to consumers.

26 The Commission considers that the principles governing the RERT mechanism should also apply to multi-year contracts in Victoria. Therefore, AEMO must give consideration to the RERT principle of minimising impacts on customer bills and the principle of RERT costs being lower than the value of customer reliability (VCR) when entering into multi-year contracts.

27 Additionally, the Commission considers that the trigger for procuring emergency reserves under the current framework should apply to the first year before AEMO were to enter into a multi-year contract; this is an expected breach of the reliability standard. However, the trigger would not be required to be met in years two and three. Instead, under the draft rule, prior to entering into a multi-year contract, AEMO would need to consider what the appropriate term and structure of a Victorian reserve contract would be, including the appropriate volume of emergency reserves procured. The Commission considers this approach balances the need to avoid the cost risk of unnecessarily procured RERT and the need to afford AEMO flexibility to undertake multi-year contracting where it would be cost-

effective.

28 The draft rule includes some additional guidance to AEMO that it must consider in terms of entering into emergency reserve contracts in Victoria.

29 Under the draft rule, the term of a multi-year contract is the duration for which AEMO reasonably expects the emergency reserves to be required to ensure reliability of supply in the Victorian region. However, this cannot be longer than three years.

30 This still affords AEMO discretion to the length of the RERT contract required, but it does make clear that, where emergency reserves are expected to be required for a period less than three years, then the contract term should be for that lesser period. This will reduce the likelihood of AEMO entering into multi-year contracts where there is no need for emergency reserves to be in place for years two or three of a contract, minimising costs passed onto consumers.

31 The draft rule also applies the requirement that will commence under the Enhancement to the RERT for AEMO to use reasonable endeavours to ensure that the amount of RERT procured is relative to the shortfall forecast. This will apply to year one of a multi-year contract. For subsequent years, the draft rule requires that AEMO to procure a volume of emergency reserves that is reasonably necessary to ensure reliability of supply in Victoria. This will also address the risk of unnecessary volumes of emergency reserves being procured under multi-year contracts, minimising the costs passed onto consumers.

Minimal risk of Victorian multi-year contracting costs being passing onto customers in other NEM regions

32 The Commission notes the concern raised by Minister Lynham, Minister for Natural Resources, Mines and Energy (Queensland), that RERT costs incurred in Victoria under multi-year contracting could spread to customers in other regions. While it theoretically may be possible for a retailer operating across multiple regions to spread the costs of the RERT that were procured and used in one region to customers in another region, the Commission considers this to be unlikely to occur in practice since for residential customers the Victorian Default Offer (VDO) has a specific allowance for RERT costs; and for large customers RERT costs are typically directly passed through to them.

33 Further, the Commission has considered the suggestion that the AER be required to monitor and ensure compliance in relation to preventing RERT costs from being recovered from customers outside of Victoria. Regulatory provisions to prevent retailers from recovering RERT costs from consumers in other jurisdictions are likely to be difficult to enforce. As the risk of RERT costs being recovered from customers outside of Victoria is low, the costs of such a compliance regime would outweigh the benefits.

AEMO's use of multi-year contracting will be transparent

34 The Commission considers that expanded reporting requirements will help to hold AEMO accountable for exercising the multi-year RERT contracts efficiently. This should address stakeholder concerns that AEMO would be free to enter into multi-year contracting in circumstances where it was not cost effective to do so.

35 The draft rule applies the following requirements for the quarterly RERT report to all multi-year contracts entered into in Victoria, in addition to those that apply to all RERT reserves:

- identify any contracts that have a term greater than 12 months
- include an explanation of why such contracts were entered into for a term greater than 12 months, including the basis on which AEMO considered the term and volume to be reasonably necessary to ensure the reliability of supply in the Victorian region; and
- outline the basis on which AEMO had regard to the RERT principles when entering into the multi year contracts
- report on the payments made in respect of each emergency reserve contract (a current requirement on all emergency reserve contracts).

The risk of market distortions is low

36 Indirect costs was an issue that was considered at length in the Enhancement to the RERT rule change process. The final rule introduced a number of provisions targeted at minimising indirect costs, which focused on making sure the wholesale market is the primary means by which reliability is delivered so that reliability is delivered at lowest cost to consumers.

37 From 26 March 2020, under the changes introduced under the Enhancement to the RERT rule, a number of out of market provisions amendments will apply that minimise indirect costs. This is in addition to the existing RERT principle for AEMO to minimise market distortions in its exercise of the RERT.

38 The Commission considers that there are trade-offs between locking in multiple year RERT contracts compared to shorter dated contracting of reserves. Given the challenging reliability circumstances in Victoria, AEMO is well positioned to make this trade-off in a considered and transparent manner, in accordance with RERT principles and guidelines. The Commission considers that the potential for indirect costs from multi-year contracting are minimised because:

- There would likely be no material distortion to the real-time operation of the wholesale market.
- The changes made under the Enhancement to the RERT rule, along with the existing RERT principles, minimise direct costs associated with the RERT.
- The time limited nature of the derogation would further reduce the risk of investors choosing to invest in assets to provide RERT instead of investing in the market.
- Having regard to confidential information provided to the Commission by AEMO, the Commission considers that the type of resource providers that could participate in the long notice RERT are unlikely to participate in the wholesale market.

Multi-year contracts under the derogation should not extend beyond June 2026

39 Given the circumstances in Victoria, the draft rule specifies that the derogation be in place for a period of approximately three years, rather than five, and end on 30 June 2023.

40 The Commission acknowledges that Victoria is facing reliability challenges in the short-medium term. Should circumstances in Victoria change or deteriorate such that the reliability

standard in that state is forecast to be breached in the 2020-2021 or 2022-2023 summers, the RRO will not be able to address these shortfalls.

41 Given the particular reliability pressures in the state, the draft rule provides AEMO with the flexibility to enter into multi-year RERT contracts up until such time the RRO could next address reliability issues. The next opportunity that the RRO would be able to address reliability issues in Victoria is the 2023-2024 summer peak. Therefore, it is proposed that AEMO be able to enter into contracts up until 30 June 2023.

42 In other words, AEMO would have the flexibility to consider and enter into multi-year contracts, subject to the limitations on procurement and activation outlined above, until June 2023 - enabling them to be in place until June 2026 (for three-year contracts). The ability of AEMO to enter into multi-year contracts would end prior to the time at which, were the RRO to be triggered in 2023-2024, retailers would be required to enter into contracts to meet their share of expected system peak demand. Otherwise, the timeframe would overlap with the obligations and incentives market participants face under the RRO. If this were to occur it would diminish the incentives for liable entities to contract under the RRO in Victoria since AEMO would also be in the market procuring three year RERT contracts at the same time.

43 This timing and approach would also complement and allow AEMO to respond to the impacts of the ESB's reliability program; both the ESB's urgent actions including those requested by COAG Energy Council and the ESB's post-2025 market design.

44 If made, the draft rule (other than the transitional provisions) will commence operation on 12 April 2020.

Consultation and next steps

45 The Commission invites submissions on this draft rule determination, including the more preferable draft rule, by 30 January 2020.

46 Following consideration of submissions, the Commission intends to publish its final determination by 12 March 2020. If any stakeholder wants to discuss aspects of this draft determination with the Commission or to request a meeting, please do not hesitate to contact either:

- Kate Degen on (02) 8296 7812 or kate.degen@aemc.gov.au or
- Jackie Biro on (02) 8296 0606 jackie.biro@aemc.gov.au

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1 RULE CHANGE REQUEST

1.1 The rule change request

On 8 October 2019, the Hon Lily D'Ambrosio MP, Minister for Energy, Environment and Climate Change, Minister for Solar Homes (Victoria) submitted a derogation proposal (rule change request) to the Australian Energy Market Commission (AEMC or Commission) relating to the Reliability and Emergency Reserve Trader (RERT).[10]

The Victorian Government has sought a jurisdictional derogation from clause 3.20.3 of the National Electricity Rules (NER) for Victoria, to allow the Australian Energy Market Operator (AEMO) to contract for emergency reserves under the RERT mechanism on a multi-year basis in that state. Specifically, this would enable AEMO to procure long-notice RERT contracts of up to three years' duration. The proposal is for five years, until 30 June 2025, and could enable multi-year RERT contracts of up to three years commencing in June 2025 and ending in June 2028.

The standard rule-making process provides for a period of up to 10 weeks for a draft determination to be released following end of the consultation period on the consultation paper. Following the release of the draft determination, which is this step, the standard process allows for a consultation period of at least six weeks and, following close of submissions, up to six weeks to release a final determination. However, the Commission also recognises the Victorian Government's concerns about reliability in Victoria this summer and so is working to deliver all milestones in the fastest timeframe possible. This includes the publication of the draft determination which has occurred faster than the statutory timeframes for publication of a draft determination under the NEL. There have been no changes to the statutory timeframes for consultation.

As this is a derogation proposal, the Minister seeking the derogation is required to consult with the Ministers of other participating jurisdictions under s. 91(3) of the NEL. Minister D'Ambrosio confirmed in the letter covering the derogation proposal that she had undertaken this consultation as required under s. 91(3) of the NEL prior to submitting the derogation proposal to the AEMC.

1.2 Rationale for the rule change request

In the derogation proposal the Victorian Government has sought to assist AEMO procure a greater volume of emergency reserves for the forthcoming 2019-2020 summer and the years that follow.

In its derogation proposal, the Victorian Government has provided the following rationale and core issues:

- Since the Commission made its final determination on the Enhancement to the RERT in May 2019, the 2019 Electricity Statement of Opportunities (ESOO) has been published

10 Hereafter, we refer to the proponent as the Victorian Government.

(August 2019) forecasting a heightened risk of load shedding in Victoria this summer, with Victoria the only state expected to breach the reliability standard.[11]

- Reliability is expected to remain a concern for 2020-2021 and 2021-2022 in Victoria. According to the Victorian Government "Victoria is in a unique position in the NEM in that it has a disproportionate dependence on a relatively small number of brown coal generation units, which are becoming increasingly unreliable".[12]
- The need for a specific mechanism to address reliability in Victoria is expected to be short-term, until the Retailer Reliability Obligation (RRO) comes into effect. The market measures included in the RRO, which commenced on 1 July 2019 and can only be triggered based on the reliability forecast for three years' hence, cannot assist in resolving the shortages forecast for the coming summer peak period in Victoria. The RRO is a long-term solution to forecast capacity shortages.[13]
- Restricting RERT contracts to nine or 12 months[14] is limiting the availability of emergency reserves in Victoria to a level that threatens the reliability of the national electricity system as it operates in Victoria. For this reason, the Victorian Government considered that introducing multi-year contracts would enable AEMO to procure a greater volume of RERT contracts,[15] which "will contribute to a more reliable supply of electricity where, in light of increased variability around demand and the changing generation mix, there is a risk that the current RERT response mechanisms may not be adequate to respond to existing and emerging power system events in Victoria".[16]
- The proposed solution is expected to deliver a net economic benefit as "RERT providers have advised that longer term contracts have significantly lower costs for each MW of available capacity compared to short term contracts" and "AEMO will only enter into multi-year contracts for RERT where it is more cost effective than entering short term contracts".[17]

1.3 Solution proposed in the rule change request

The Victorian Government proposed a jurisdictional derogation to the NER to extend the duration of long-notice RERT contracts to periods of up to three years in the jurisdiction of Victoria.

It is proposed that long notice RERT contracts would commence within the existing procurement lead times of a forecast shortfall in capacity.[18] This would mean that a RERT contract could only be entered into nine months (currently) or 12 months (after 26 March 2020) in advance of a forecast reliability gap. However, the contract duration would be a

11 The Honourable Lily D'Ambrosio MP, Victorian jurisdictional derogation – RERT contracting, rule change request, p. 3.
12 ibid, pp. 4-7, quote pp. 6 -7.
13 Ibid, p. 5.
14 From 26 March 2020, the effective limit on the length of a RERT contract will increase from nine to 12 months under the Enhancement to the RERT rule change, detailed in Chapter 2.
15 ibid, p. 3.
16 ibid, p. 10.
17 ibid, p. 10.
18 The lead times are a period of nine months up until 26 March 2020 and twelve months thereafter.

maximum of three years rather than being limited by the maximum procurement lead time as is currently the case.

The Victorian Government state that having the contracts remain in effect for up to three years would potentially result in availability payments for the duration of the contract, where that was assessed by AEMO as cost-effective and justified.[19]

The derogation was proposed to be in place for five years until 30 June 2025.

The Victorian Government stated that the proposed rule, if made, would have the effect of:[20]

- Enabling AEMO to use its discretion to enter into multi-year (up to three years) RERT capacity reserves in Victoria within the parameters articulated in the NER and RERT Guidelines.[21]
- Multi-year contracts being entered into, potentially assisting AEMO to procure additional emergency reserves that could help avoid load shedding during the forthcoming summer and in future years in Victoria.
- Multi-year RERT contracts being entered into up until the proposed expiry of the derogation, which is 30 June 2025. This would mean that multi-year contracts could be entered into up until 30 June 2025, enabling a multi-year contract to be in place until June 2028.
- Separating the concepts of contract duration and procurement lead time in the NER for the state of Victoria for the life of the derogation.[22]

1.4 The rule making process

On 24 October 2019, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.[23] A consultation paper identifying specific issues for consultation was also published. Submissions closed on 21 November 2019.

In submitting the derogation proposal, the Victorian Government requested that it be subject to the expedited rule making process on the basis that it is an 'urgent rule' as defined in the NEL.[24] The Victorian Government stated that assessment of the rule change request on an expedited basis is needed to allow the derogation to come into effect prior to Victoria's peak electricity demand occurring this (2019-2020) summer.

The Commission set out in the consultation paper that it accepted that the rule change request was a request for an urgent rule as defined in s. 96 of the NEL. Accordingly, the

19 The Honourable Lily D'Ambrosio MP, Victorian jurisdictional derogation – RERT contracting, rule change request, p. 8.

20 ibid, pp. 7-8.

21 The RERT Guidelines provide additional guidance to AEMO on what to take into account when it uses the RERT. The guidelines were last updated by the Reliability Panel on 25 July 2019 following the AEMC's Enhancement to the RERT final rule made on 2 May 2019.

22 The NER does not currently prescribe a specific duration for RERT contracts., However, the procurement lead time specified in the NER limits the duration of these contracts.

23 This notice was published under s. 95 of the National Electricity Law (NEL).

24 Section 96 of the NEL.

Commission commenced an expedited rule change process, subject to any written requests not to do so.[25] This decision was informed by the Victorian Government's views, as set out in the rule change request, that the risk to reliability in terms of involuntary load-shedding in the state of Victoria is a reasonable possibility over the 2019-2020 summer and that additional volumes of emergency reserves may be required.

On 7 November 2019, the Commission received four objections to the proposed derogation proceeding through the expedited process as an urgent rule. Under s. 96(3) of the NEL, the AEMC must not make a rule in accordance with the expedited process if the AEMC receives a written request not to do so, and the reasons set out are not, in its opinion, misconceived or lacking in substance.

The Commission considered the reasons outlined in the four objections submitted and concluded that some reasons provided in the objections were not misconceived or lacking in substance. Consequently, the rule change request is being assessed under the standard rule change process and a notice was published to that effect.[26]

The Commission received 15 submissions to the rule change request. Issues that are not discussed in the body of this document have been summarised and responded to in Appendix A.

1.4.1 Consultation on draft rule determination

The Commission invites submissions on this draft rule determination, including the more preferable draft rule, by Thursday 30 January 2020.

Any person or body may request that the Commission hold a hearing in relation to the draft rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than Thursday 9 January 2020.

Submissions and requests for a hearing should quote project number ERC0283 and may be lodged online at www.aemc.gov.au.

25 The expedited rule change process involves one round of public consultation on the rule change request and the publication of a final determination within eight weeks of commencing the rule change process.

26 Section 96(5) of the NEL.

2 BACKGROUND

This chapter provides an overview of the role of the RERT, the current arrangements that apply and the recent changes that have been made to the national electricity market's (NEM) reliability framework and an overview of other related work underway.

2.1 Key elements of the RERT

This section summarises the current RERT arrangements. It covers the:

- role of the RERT
- RERT framework
- procurement lead time and the contracting period
- recovery of RERT costs
- reporting on the RERT.

2.1.1 The role of the RERT

The RERT is the NEM's strategic reserve and has formed part of the reliability framework since the start of the NEM in December 1998. It is a tool that allows AEMO to procure 'standby' emergency reserves; generation and demand-side capacity that is not otherwise being traded in the market. AEMO can use the RERT in the event that it forecasts the market will not meet the reliability standard (that is, when AEMO projects that unserved energy (USE)[27] is expected to be greater than 0.002 per cent) and where practicable, to maintain power system security.

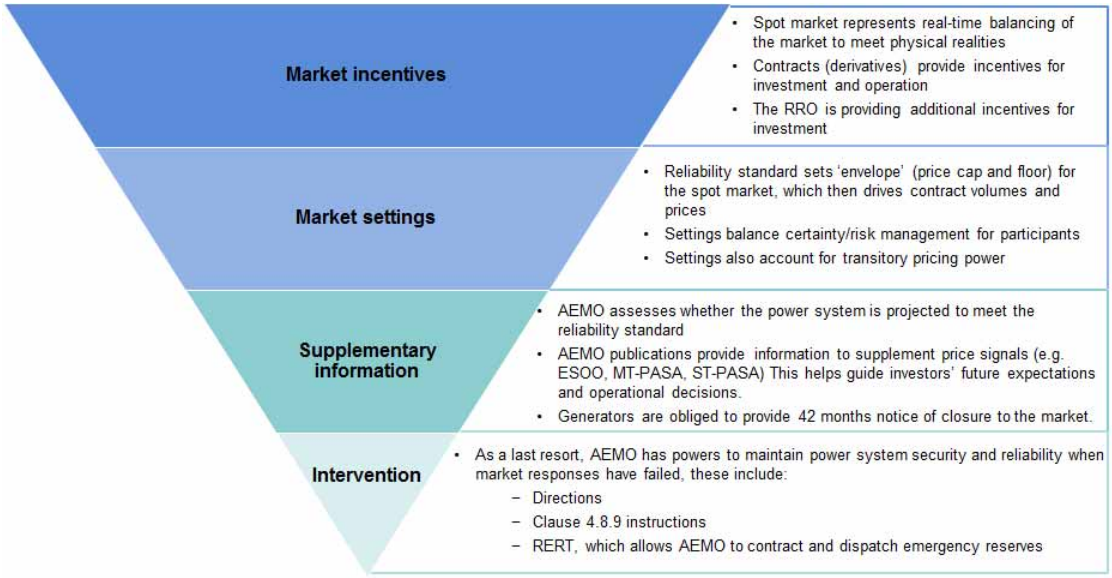
Other components of the reliability framework for the NEM, comprise market mechanisms and incentives, the reliability standard and reliability settings, the provision of information to the market and intervention mechanisms. In addition, the reliability framework was recently supplemented by the RRO that was put in place on 1 July 2019. The RRO is expected to support a reliable energy system by requiring companies to hold contracts or invest directly in generation or demand response to support reliability in the NEM (see section 2.2.4 for further details).

As shown in Figure 2.1, the RERT is one of three existing last resort interventions that AEMO can use to maintain reliability if the market fails to respond to published forecast information. The RERT is used to help avoid larger and more widespread blackouts from occurring. To date the RERT has typically been used when extreme heat-waves are predicted.[28]

27 Unserved energy is defined under Chapter 10 of the NER as "The amount of energy demanded, but not supplied, in a region determined in accordance with clause 3.9.3C(b), expressed as: (a) GWh; or (b) a percentage of the total energy demanded in that region over a specific period of time such as a financial year"

28 A more comprehensive discussion of the reliability framework can be found in the AEMC's Reliability Frameworks Review, available at https://www.aemc.gov.au/sites/default/files/2018-07/Final%20report_0.pdf.

Figure 2.1: Current reliability framework with escalating series of interventions



Source: Updated from AEMC, *Reliability Frameworks Review*, final report, 26 July 2018.

2.1.2 The RERT framework

The NER provide the high-level framework for the RERT, including:[29]

- setting out the RERT principles [30]
- requiring the Reliability Panel to publish RERT guidelines [31]
- requiring AEMO to publish procedures for the exercise of the RERT.[32]

The RERT principles provide that:[33]

- actions taken should be those which AEMO reasonably expects, acting reasonably, to have the least distortionary effect on the operation of the market
- actions taken should aim to maximise the effectiveness of reserve contracts at the least cost to end use consumers of electricity.

The RERT guidelines, prepared by the Reliability Panel, provide additional guidance to AEMO on RERT principles and on the cost-effectiveness of emergency reserves.[34] AEMO is required to exercise the RERT in accordance with the RERT guidelines.

29 Rule 3.20 of the NER.
30 Clause 3.20.2(b) of the NER.
31 Clause 3.20.8 of the NER.
32 Clause 3.20.7(e) of the NER.
33 Clause 3.20.2(b) of the NER.
34 The Reliability Panel recently updated these Guidelines in response to the AEMC's final determination for the Enhancement to the *Reliability and Emergency Reserve Trader* rule change request.

There are three types of emergency reserves based on how much time AEMO has to procure emergency reserves prior to the projected reserve shortfalls occurring:

- Long-notice RERT — currently between nine months' and ten weeks' notice of a projected reserve shortfall. This will increase to 12 months on 26 March 2020.
- Medium-notice RERT — between ten weeks' and one week's notice of a projected reserve shortfall.
- Short-notice RERT — between seven days' and three hours' notice of a projected reserve shortfall.

AEMO's discretion as to how it should procure and dispatch the RERT is limited by a number of provisions in the NER, including those relating to the application of the RERT principles. The RERT mechanism allows AEMO to contract for additional, emergency reserves that are not otherwise available in the wholesale market. The RERT framework is designed to minimise distortions to the wholesale market.

The relevant aspects of the RERT framework for this derogation proposal, and key recent changes to the RERT and reliability framework more generally, are summarised in the following sections.

Prior to 2017, AEMO had only entered into RERT contracts three times and had never dispatched the RERT. This changed in 2017, when AEMO entered into a number of emergency reserve contracts. Since that time, AEMO has used the RERT a number of times, including November 2017, January 2018, and most recently in January 2019. This increase in use of the RERT reflects the changing system needs, including:

- the changing generation mix being evidenced by a growing proportion of variable renewable generation and an aging fleet of thermal generation,
- a tightening supply-demand balance,
- peakier demand and higher temperature peaks.
- as well as more flexible and responsive demand-side. [35]

The appendix to this draft determination details recent load shedding and use of the RERT.

2.1.3 Changes made to the RERT framework under the Enhancement to the RERT final rule

On 2 May 2019, the Commission made a final rule for the *Enhancement to the RERT* rule change request. This final rule made a number of changes to the RERT framework to embed it clearly within the reliability framework. This change was made to provide AEMO with flexibility and discretion to use the RERT while also increasing transparency and minimising market distortions and costs to consumers. Many of these changes to the RERT framework commence on 26 March 2020, with some new reporting requirements commencing on 31 October 2019.

35 AEMC, Enhancement to the Reliability and Emergency Trader Reserve, Rule determination, 2 May 2019, pp. 26 - 27, and AEMC, Enhancement to the Reliability and Emergency Trader Reserve, Consultation Paper, 21 June 2018, pp 15 - 17.

The table below summarises how the current and updated framework under the Enhancement to the RERT final rule apply to long notice RERT, as the derogation proposal relates to extending the contract duration of long-notice RERT to a maximum of three years.

Table 2.1: **Changes between existing and updated framework for long notice RERT**

ASPECT OF FRAMEWORK	CURRENT ARRANGEMENTS	UPDATED ARRANGEMENTS
Procurement trigger	The NER trigger clause links RERT procurement to ensuring the reliability of supply meets the reliability standard, but AEMO is able to use any information to inform its decision to procure RERT (subject to the RERT Guidelines).	The trigger is linked explicitly to forecast breaches of the reliability standard. AEMO can only procure RERT following a declaration of low reserve conditions (LRCs) or lack of reserves conditions (LORs).
Procurement volume	The current arrangements are silent in relation to the procurement volume. However, the RERT principles requiring AEMO to minimise market distortions and costs to end consumers have relevance to the volume of RERT procured.	The volume procured must be an amount that is no more than AEMO considers is reasonably necessary to meet the reliability gap identified by an expected breach of the reliability standard.
Procurement lead time and implied contract duration	A maximum of nine months.	A maximum of 12 months.
Out of market provisions	Scheduled reserves cannot participate in RERT if in the market (ie, dispatch offers or bids submitted, likely to be submitted or otherwise available for dispatch) for the trading intervals to which contract relates. However, implementation of the provision is unclear.	Scheduled reserves cannot participate in RERT if in the wholesale market (ie, dispatch offers or bids submitted, likely to be submitted or otherwise available for dispatch) for the past 12 months, and for the duration of the contract. Unscheduled reserves cannot participate in RERT if subject to another arrangement under which the reserves are offered in the market for the trading intervals to which the

ASPECT OF FRAMEWORK	CURRENT ARRANGEMENTS	UPDATED ARRANGEMENTS
		contract relates. "Wholesale market" means a market for the trading of energy only. Greater transparency by requiring AEMO to provide guidance on implementation in its procedures.
Costs of RERT	The RERT principles requiring AEMO to minimise market distortions and costs to end consumers and market distortions have relevance to the costs of the RERT procured. The NER require that RERT costs incurred by AEMO be met by fees imposed on market customers in the region where emergency reserves have been procured under reserve contracts which relate to that region.	Introduces an additional RERT principle that the costs of RERT should not exceed average value of customer reliability. Introduces a more cost reflective approach to who pays for emergency reserves. This approach aligns the cost of emergency reserves with, where possible, the customers who were consuming when the RERT was used.
Reporting on RERT procurement, activation, use and costs	The RERT guidelines state that within one month of entering into a contract AEMO may publish the name of the counterparty to the contract and the volume and timing of the reserves procured. This is not mandatory but AEMO does routinely publish this information. If AEMO dispatches or activate emergency reserves, it must (no later than 5 business days) publish details covering the total estimated payment made under reserve	In addition to the existing reporting requirements, AEMO must include detailed information about RERT contracts in quarterly RERT reports including the estimated amount payable by region; AEMO's modelling forecast and analysis used to determine whether to enter into reserve contracts and the amount of reserve procured; if relevant an explanation for why AEMO procured a greater amount than any shortfall identified; the periods during

ASPECT OF FRAMEWORK	CURRENT ARRANGEMENTS	UPDATED ARRANGEMENTS
	contracts and total volume of reserves dispatched. *Please note that some of the reporting requirements introduced under the Enhancement to the RERT and referred to in the adjacent cell have already commenced.	which the emergency reserves are expected to be required; the term of each reserve contract including explanation for why that term was necessary; an explanation for the basis on which AEMO had regard for the RERT principles. AEMO must include detailed information in RERT quarterly reports about any RERT that has been dispatched or activated. The RERT quarterly reports must also include AEMO's costs associated with exercising the RERT and a breakdown of the recovery of those costs.

Note: 1. The majority of the changes under the enhanced framework come into effect on 26 March 2020 with some reporting requirements having commenced on 31st October 2019.
Note: 2. More information on the Enhancement to the RERT framework can be found in the final determination, available at: https://www.aemc.gov.au/rule-changes/enhancement-reliability-and-emergency-reserve-trader

The following sections provide more detail on the differences between the existing and the updated RERT frameworks.

2.1.4 Procurement trigger, lead times and contract duration

Existing framework

The current trigger potential for the procurement of RERT is when AEMO observes that forecast reliability is outside the reliability standard. If AEMO considers there is no market resolution to a forecast shortfall, then it may choose to procure emergency reserves "to ensure that the reliability of supply in a region meets the reliability standard for the region and, where practicable, to maintain power system security."[36]

The RERT guidelines identify what information AEMO may take into account when deciding whether to enter into reserve contracts.

36 Clause 3.20.3 (b) NER.

Typically, AEMO sets up a RERT panel of providers for both the medium-notice and short-notice RERT, and only trigger the procurement contract when it has identified a potential shortfall and after seeking offers from RERT panel members.[37] There is no panel for the long-notice RERT; rather, contracts are signed following the close of a public tender process.

Under the current arrangements for long and medium notice RERT, AEMO may take into account the forecasts in the Medium Term Projected Assessment of System Adequacy (MT PASA) reports, the outcome of the Energy Adequacy Assessment Projection (EAAP) or any other information (such as the ESOO) that AEMO considers relevant.[38] For short-notice RERT, the RERT Guidelines state that AEMO may take into account the Short Term Projected Assessment of System Adequacy (ST PASA) and pre-dispatch processes and any other information that AEMO considers relevant.[39]

The Victorian Government derogation proposal relates to the maximum duration of a long-notice RERT contract. Currently, AEMO can enter into a contract up to nine months in duration.[40]

Arrangements commencing 26 March 2020

From 26 March 2020, the procurement trigger for emergency reserves will change in accordance with the Enhancement to the RERT rule made in May 2019. These changes will more explicitly link the procurement trigger for the RERT to forecast breaches of the reliability standard.

The new requirements restrict the procurement of all types of RERT to a low reserve condition (LRC) or lack of reserve (LOR) declaration. By linking the all procurement processes explicitly to the reliability standard (through the LCR and LOR declarations), it limits the misallocation of reliability risks, in terms of how they are managed in the NEM. The enhancement to the RERT final rule also recognised the practical limitations and challenges of emergency reserves, and incorporates some flexibility into these parameters. In practice this means that in the future forecast shortfalls in the ESOO will not be able to trigger the procurement of RERT. The inputs into an LRC or LOR declaration are set out in the Reliability Standard Implementation Guidelines (RSIG). Section 2.3 of these guidelines state that the MT-PASA identifies an LRC. According to the RSIG the EAAP is also relevant to LRC declarations.[41]

Under the Enhancement to the RERT final rule, the maximum procurement lead time for the long notice RERT ahead of a forecast shortfall, will be 12 months. Where long notice RERT is procured this will enable AEMO to enter into long notice RERT contracts of up to 12 months duration, rather than the 9 months under the current arrangements. This extended lead time also creates consistency with the lead time under the Retailer Reliability Obligation (RRO, see section 2.2.4).

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37 AEMO has the discretion to use a tender process in addition to using panel members in the case of the medium-notice RERT.

38 Reliability Panel, RERT Guidelines, p. 4.

39 Reliability Panel, RERT Guidelines, p. 4

40 The maximum duration of a RERT contract is implied by the procurement lead time as the contract cannot be entered into more than nine months prior to when AEMO expects the shortfall to occur. Clause 3.20.3(d) of the NER.

41 See sections 2.1 and 2.2 of the RSIG. An LOR is the relevant trigger for short notice RERT and it is based on the ST-PASA.

Therefore, from 26 March 2020, AEMO will be able to procure RERT contracts of up to 12 months duration.[42] While AEMO cannot currently enter into multi-year contracts, the NER do not prevent AEMO from negotiating at any time with potential tenderers in relation to RERT contracts.[43]

2.1.5 Activation of RERT

Current arrangements

The dispatch and activation of RERT is quite separate from the procurement arrangements described above. If AEMO considers the latest time for exercising the RERT has arrived, AEMO may dispatch scheduled reserves or activate unscheduled reserves to ensure that the reliability of supply in a region meets the reliability standard, and where practicable, to maintain power system security.[44] Closer to real-time and a potential reliability event, AEMO's reliability assessment switches to a more operational-type assessment where AEMO targets zero USE.

Arrangements commencing 26 March 2020

The framework relating to the activation of the RERT remains unchanged from the current arrangements.

2.1.6 Recovery of RERT costs

Current arrangements

The NER require that RERT costs incurred by AEMO be met by fees imposed on market customers in the region where emergency reserves have been procured under reserve contracts which relate to that region. [45] The cost per market customer is proportional to the energy consumption of that customer in the relevant region during certain time periods.[46] Costs are recovered through the usual weekly settlement process.

If emergency reserves are required in multiple regions, cost sharing arrangements must be agreed between the regions and AEMO when entering into the contracts.[47] Such arrangements currently only exist between South Australia and Victoria.

The NER do not prescribe how market customers (retailers) then recover these costs from end customers. Market customers typically recover RERT costs based on the conditions of the contracts with their customers. For example, tariffs in residential contracts, tend to only change once per year and so this affects how these costs are recovered. Other contracts such as with large customers may have different conditions, including the ability for retailers to pass through RERT costs directly, should they choose to, in a more timely manner.

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42 As the maximum procurement lead time will increase from nine to 12 months upon the commencement of the Enhancement to the RERT rule change.

43 Clause 3.20.3(d) of the NER.

44 Clause 3.20.7(a) of the NER.

45 Clauses 3.15.9(a) and (e) of the NER

46 Clause 3.15.9(e) of the NER

47 Clause 3.20.3(f) of the NER.

Arrangements commencing 26 March 2020

The Commission's changes to the RERT in the Enhancement to the RERT rule introduce a more cost reflective approach to who pays for emergency reserves. This new approach recovers the costs of emergency reserves where possible, from those customers who were consuming electricity at the time the RERT was used. These changes are expected to provide efficient incentives for parties to reduce or avoid these costs.

The more cost reflective RERT cost recovery arrangements require AEMO to recover costs associated with the direct and immediate activation of RERT resources (for example, activation costs or usage charges) in proportion to market customers' consumption over each of the trading intervals in which the RERT resource is activated, in the region in which the RERT was used. It also requires AEMO to recover all other costs associated with the procurement of emergency reserves (other than administrative and operational costs) in proportion to market customers' consumption during each of the billing periods in which the costs were incurred, in the region in which RERT was used.

The Enhancement to the RERT rules also inserted an additional RERT principle that specified the costs of the RERT should not exceed the estimated average Value of Customer Reliability (VCR) for the relevant region. This was included to provide guidance to AEMO to consider whether the cost of entering into emergency reserve contracts is reasonable.

2.1.7 Reporting on RERT

Current arrangements

The RERT guidelines state that in relation to the procurement of long, medium and short notice RERT, AEMO may "within one month after entering into a contract for [emergency] reserves, publish the name of the counterparty to the contract and the volume and timing of reserves procured under the contract".[48] This requirement is not mandatory; however, AEMO routinely publishes this information and in relation to long-notice RERT, this occurs towards the end of November.[49]

If AEMO dispatches or activates emergency reserves, then it must, as soon as practicable, and in any event no later than five business days after, publish on its website a report that includes details of[50]:

- the total estimated payment made under reserve contracts
- the total estimated volume (in MWh) of reserves dispatched or activated under reserve contracts for the relevant region.

48 Reliability Panel, RERT Guidelines, p. 14.

49 In line with these guidelines, AEMO published information about the long notice RERT contracts it has entered into for the 2019-2020 summer in Victoria. The information can be found at : https://www.aemo.com.au/-/media/Files/Electricity/NEM/Emergency_Management/RERT/2019/RERT-Contracted-for-Summer-2019-20.pdf

50 Clause 3.20.6 of the NER. In circumstances where emergency reserves are dispatched or activated over consecutive days, the reference to five business days in this clause is to be read as "five business days from the final consecutive day in which the reserves were dispatched or activated".

Arrangements introduced under the enhancement to the RERT rule change

The enhancement to the RERT rule change introduced new reporting obligations on AEMO. These obligations require a clear explanation of the reasons for RERT procurement to improve the ability of retailers, consumer groups, governments, policy-makers and other interested parties to understand the costs of the RERT, and what is driving the use of the RERT. It is anticipated that an improved understanding of RERT will help these parties to make more informed operational and investment decisions, and to better budget and plan for RERT related charges. It also allows lessons to be learned from past RERT events.

Arrangements that commenced on 31 October 2019

Several of the changes to the reporting requirements introduced under the Enhancement to the RERT rule commenced on 31 October 2019 and are now a part of the current RERT framework. Under these recent changes, AEMO is now required to release a RERT report each quarter providing key RERT information. The quarterly reports are to be published within 30 business days of the end of each quarter. AEMO is required to publish the inaugural RERT quarterly report, covering Q4 2019, in early February 2020.

In relation to the procurement of RERT, AEMO is required to report on:[51]

- the estimated average amount payable under reserve contracts for each region broken down by payment type
- if relevant, an explanation for why AEMO procured a greater amount than any shortfall identified.

The RERT quarterly report must also include information about any RERT that has been dispatched or activated and must include a detailed explanation of:[52]

- the circumstances giving rise to the need for the dispatch or activation of emergency reserves, including the modelling, forecasts and analysis used by AEMO to determine the need for such dispatch or activation of reserves
- the basis on which it was determined the latest time for that dispatch of scheduled reserves or activation of unscheduled reserves and on what basis AEMO determined that a market response would not have avoided the need for the dispatch of scheduled reserves or the activation of unscheduled reserves
- changes in dispatch outcomes
- processes implemented by AEMO to dispatch the scheduled reserves or activate the unscheduled reserves
- if applicable, the reasons why AEMO did not follow the processes in rule 4.8 of the NER (covering power system security operations)
- if applicable, the basis upon which AEMO considered it impractical to set spot prices and ancillary service prices in accordance with clause 3.9.3(b) of the NER

51 Clause 3.20.6 (d) of the NER.

52 Clause 3.20.6(e) of the NER.

- the total amount of emergency reserves dispatched or activated (and, if applicable, why such amounts were different to those previously forecast or modelled by AEMO)
- the periods in which emergency reserves were dispatched or activated, and if applicable, why such periods were different to those previously forecast
- impact of the dispatch of scheduled reserves or activation of unscheduled reserves on:
  - the reliability of supply into the market, or
  - where applicable, power system security.

In addition, the RERT quarterly report must also include a detailed explanation of:[53]

- AEMO's costs associated with exercising the RERT (including an amount expressed in $/MWh), including the payments under the reserve contract for the relevant billing periods
- a breakdown of the recovery of those costs (including an amount expressed in $/MWh) from each market customer, as determined by AEMO, in each region.

Arrangements commencing 26 March 2020

From 26 March 2020, AEMO will be required to provide more information about RERT in its quarterly reports. The additional reporting requirements regarding RERT contracts under clause 3.20.6 (d) of the NER include:

- AEMO's modelling forecast and analysis used to determine whether to enter into reserve contracts and the amount of reserve procured
- identifying the periods that the emergency reserves are expected to be required to address the relevant low reserve or lack of reserve condition
- the term of the reserve contract — including the justification for that term
- an explanation for the basis on which AEMO had regard to the RERT principles and in relation to the principle that the average amount payable for each MWh of emergency reserves should not exceed the estimated average VCR, and an explanation for why the RERT costs exceeded the VCR (where relevant).

In relation to RERT that has been dispatched or activated, new obligations under clause 3.20.6(e) of the NER require the RERT quarterly report to include the estimated costs of load shedding (including an amount expressed in $/MWh) in a region avoided as a result of the dispatch or activation of reserves.

2.2 Other recent changes to the reliability framework

There have been a number of recent changes to the reliability framework in the NEM, including rule changes relating to the RERT. The following sections summarise the key recent changes as context for the Victorian Government's derogation proposal.

53 Clause 3.20.6 (f) of the NER.

2.2.1 Extension of the RERT

In 2016, the Commission made a final rule called the Extension of the RERT — 2016.[54] While the RERT was originally designed with an expiry clause, the Commission made it a permanent feature of the reliability framework under this rule.

In making this determination, the Commission noted that ongoing uncertainty raised the possibility that future electricity demand may not be met and that the RERT is more efficient than other intervention mechanisms in the NEM's reliability framework (for example, directions) in managing shortfalls of supply. In making the RERT a permanent feature, the Commission also decided to reduce the timeframe for its exercise (from nine months to ten weeks based on advice from AEMO at the time), in effect removing the long-notice RERT. This was done to minimise the distortionary effects of the RERT on market participants which can contribute to increased costs to consumers. The final determination noted that removing the long-notice RERT would:

- Give market participants greater time and opportunity to respond to a projected shortfall before AEMO seeks to enter into RERT contracts. A response from market participants is more economically efficient than reserve contracting.
- Minimise the likelihood that, in contracting for emergency reserves, AEMO crowds out potential market-based arrangements (such as retailers seeking to engage with their customers to reduce load through demand response).
- Allow AEMO to utilise new and more up-to-date information to inform both its assessments of capacity adequacy, and its decisions on whether to enter into reserve contracts(s). This can reduce the risk that reserve contracts are unnecessarily entered into and not dispatched, with the associated costs being ultimately borne by customers.

2.2.2 Reinstatement of the long-notice RERT

In June 2018 the Commission made the decision to reinstate the long-notice RERT in response to a rule change request from AEMO.[55] The procurement lead time was increased to nine months. The Commission noted that having more resources able to participate in the RERT through a longer procurement lead time may improve the efficiency of the procurement process and may put downward pressure on the direct costs of the RERT.

2.2.3 Enhancement to the RERT

In May 2019, the Commission made a final rule, the Enhancement to the RERT, in response to a rule change request from AEMO.[56] The substantive features of the final rule, which commence on 26 March 2020 are primarily covered above.[57]

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54 AEMC, *Extension of the Reliability and Emergency Reserve Trader,* final determination, 23 June 2016.

55 AEMC, *Reinstatement of the long notice Reliability and Emergency Reserve Trader*, final determination, June 2018.

56 See https://www.aemc.gov.au/sites/default/files/2019-05/Final%20Determination.pdf

57 The final rule commences on 26 March 2020, although certain reporting requirements commenced on 31 October 2019.

Of particular relevance to this derogation request, the Enhancement to the RERT final rule does not allow multi-year contracting. This decision was made following consideration of the potential costs (both direct and indirect) weighed against the potential benefits.[58]

2.2.4 The Retailer Reliability Obligation

Overview

On 19 December 2018, the Council of Australian Government (COAG) Energy Council agreed to the final draft bill of the NEL amendments which would give effect to the Retailer Reliability Obligation (RRO), as presented by the Energy Security Board (ESB). The RRO was developed to help with additional investment in dispatchable generation needed to avoid the risk of supply shortfalls.

The RRO, which commenced on 1 July 2019, builds on existing spot and financial market arrangements in the electricity market to facilitate investment in dispatchable capacity and demand response. It is designed to incentivise retailers, on behalf of their customers, to support the reliability of the power system through their contracting and investment decisions. If the RRO is triggered, retailers will be required to enter into contracts that will have the aim of increasing contracting levels of existing generators as well as unlocking new investment. This will improve liquidity and increasing demand response, which will increase in-market reserves and support reliability further.

The obligation on retailers to secure sufficient qualifying contracts will be triggered if there is a material gap (defined as a breach of the reliability standard) between forecast demand and supply three years out from the period in which the gap is forecast by AEMO[59] and the AER has subsequently made a 'T-3 reliability instrument'.[60]

If the AER triggers the RRO, retailers (and other liable entities) will be required to enter into sufficient qualifying contracts to cover their share of a one-in-two year peak demand at the time of the reliability gap. When liable entities submit their contract positions to the AER each contract will be assessed and if necessary, adjusted for 'firmness". To make sure enough contracts are available to smaller market customers, a Market Liquidity Obligation will require the obligated parties to make contracts available to the market.[61]

Under the RRO, if a gap that was identified three years out still persists one year out, then AEMO may commence procurement of emergency reserves at T-1 (that is, 12 months ahead of the gap) through the RERT framework to address the remaining gap, with costs to be recovered through the Procurer of Last Resort cost recovery mechanism.

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58 AEMC, *Enhancement to the Reliability and Emergency Reserve Trader*, rule determination, 2 May 2019, pp. 132-139. In its April 2019 submission to this process, the Victorian Government supported amendments to the NER to permit multi-year contracting.

59 AEMO will identify any potential reliability gaps in each NEM region in the coming five years using its ESOO

60 When AEMO identifies a material gap three years out, it has to apply to the AER to make a "T-3 reliability instrument". This instrument is then the trigger for the RRO mechanism and obligations, such as requiring retailers to have enough contracts in place.

61 Commonwealth of Australia, *Retailer Reliability Obligation Factsheet*, 2019.

The need for consistency between the lead times on the RERT and the RRO was one of the reasons why the Commission increased the procurement lead time for long-notice RERT contracts to 12 months in the Enhancement to the RERT rule.

Cost recovery

The cost recovery arrangements for emergency reserves procured under a T-1 instrument will differ from other RERT cost recovery arrangements. Under the NER, all RERT costs will initially be settled on the basis of existing RERT cost recovery arrangements. A portion of RERT costs may subsequently be reallocated under the Procurer of Last Resort (POLR) cost recovery regime. The reallocation will be calculated on an ex-post basis once compliance has been determined by the AER. Once total POLR costs have been determined, these costs will be recovered from under-contracted liable entities, capped at $100 million per liable entity. A liable entity's share of total POLR costs will be proportionate to the extent of its under-contracting.[62]

Operational commencement of RRO

The 2019 ESOO released in August 2019 was the first report that could be used under the RRO to predict reliability gaps. It stated that while the expected level of USE in Victoria in 2019-2020 is forecast to exceed the reliability standard under some scenarios (for instance, if either of the current outages at the Loy Yang and Mortlake Power Stations extend over the summer), the 2019-2020 summer does not fall within the timeframes for the RRO to be triggered. [63] As there are no reliability gaps in the other years covered by the 2019 ESOO, AEMO noted it would not be requesting T-3 reliability instruments in response to the 2019 ESOO.[64]

The next opportunity for the RRO to be triggered is the 2020 ESOO. If the 2020 ESOO triggers the RRO then earliest it could be operational is for the 2023-2024 peak summer period[65].

2.3 Current work on the reliability framework

The Commission recognises there are a number of work programs that, once concluded, may be relevant to its considerations regarding this derogation proposal. The Commission is working closely with the relevant market bodies and the ESB on these matters. Where these work programs are sufficiently progressed, the Commission has taken them into account in making this draft rule determination.

ESB review of the reliability standard

62 Energy Security Board, *Retailer Reliability Obligation*, Final rules package, 2 May 2018, section 8.

63 AEMO, *2019* ESOO, pp. 73, 77. Without a T-3 reliability instrument for the same period, a T-1 reliability instrument cannot be requested. As this is the first year the RRO is in effect, there are no T-3 reliability instruments in existence. There are also no forecast reliability gaps in the T-1 timeframe (2020-2021).

64 AEMO, *2019* ESOO, August 2019, p. 77.

65 There are direct interactions in the NEM's reliability framework between the RRO and the RERT. In particular, if a T-1 reliability instrument is made by the AER under the RRO, then AEMO would become the Procurer of Last Resort and could purchase emergency reserves through the RERT mechanism. As noted above, one reason the procurement lead time for long-notice RERT contracts was increased to a maximum of 12 months was to give AEMO the ability to procure emergency reserves for the duration of a T-1 reliability instrument

In November 2019, the COAG Energy Council tasked the ESB to provide advice for it to make a decision in March 2020 on immediate measures to ensure reliability and security of the electricity system. As part of this work, the ESB was requested to undertake an immediate review of the NEM electricity reliability standard to assess whether it is fit for purpose and to also assess its benefits and costs to consumers. As the ESB will report to COAG Energy Council with its recommendations by March 2020. Any change to the reliability standard that is approved will apply for the 2020-2021 summer and beyond for the purposes of the 2020 ESOO, RERT triggering and RRO triggering, and enable AEMO to better capture tail risks.[66]

AEMO rule change request regarding the 'merit order' of reliability interventions

AEMO submitted a rule change request to the AEMC proposing that the requirement for AEMO to exercise RERT before issuing directions or instructions be removed from the NER and replaced by a principle requiring AEMO to endeavour to minimise the costs and maximise the effectiveness of an intervention in the NEM.

AER review of values of customer reliability

The AER is conducting a review to determine the values different customers place on having a reliable electricity supply, and will shortly publish a final report. The value of customer reliability (VCR) is relevant to procurement of RERT due to the principle introduced under the Enhancement to the RERT rule; that RERT costs at time of procurement should be below VCR and, if they are not, AEMO is required to provide an explanation in the RERT quarterly report.

The VCR plays a pivotal role in network planning and investment and informs the design of market and network price caps and incentives, such as for network reliability. The last review of VCR was undertaken in 2014 by AEMO.

On 26 November 2019, the AER released its final VCR methodology on its approach for developing VCR values for the NEM and the Northern Territory. The AER's review has updated the methodology of AEMO's 2014 review to take account of changes in the NEM.

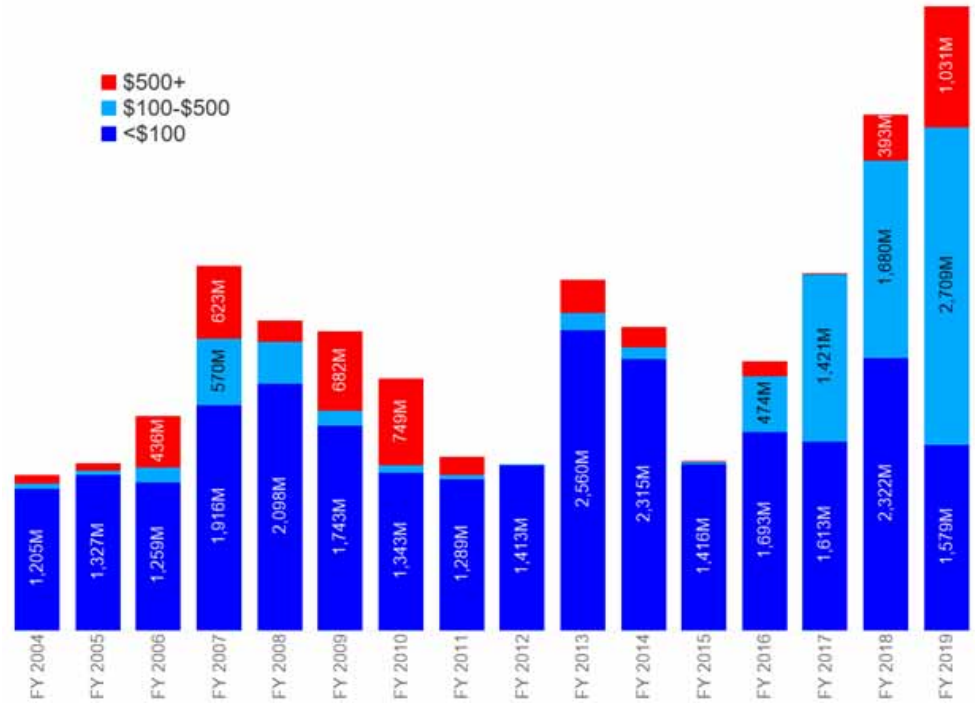
2.4 Investment environment in Victoria

It is also worth considering the current investment environment in Victoria as context for this rule change request.

Based on historical spot market data, it can be seen that there have been strong signals for investment in the Victorian wholesale market for the past several years. For example, the value of electricity settled in the Victorian wholesale pool during the 2018-2019 financial year was a record high (Figure 2.2). Over $1 billion of the total $5 billion traded related to prices above $500/MWh, above the prices typically needed to cover the running costs of peaking generators ($300/MWh). Furthermore, the 2017 and 2018 financial years were also high relative to previous years.

66 COAG Energy Council, *Meeting communique*, 22 November 2019. See also scope of work at http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Reliability%20and%20Security%20Measures%20-%20Scope%20of%20work.pdf.

Figure 2.2: Annual notional value of dispatched energy in Victoria



Source: AEMC

The figure shows that the value of the energy traded in the Victorian wholesale market over the past four years has been high, and is increasing. The last two years recorded the highest values in the past 15 years despite the volume of energy traded being relatively flat or decreasing. This increasing value reflects higher spot prices in the market. In addition, a greater proportion of revenue is coming from periods of medium to high spot prices.

Box 1 presents the Commission's analysis of the financial incentives facing investment in peaking generation in Victoria. Its findings suggest there are strong price signals to invest in the Victorian market. Yet, as noted in Chapter 5, there has been no investment in dispatchable generation in Victoria either over the past few years or slated going forward.[67]

BOX 1: INCENTIVES FOR INVESTMENT IN PEAKING GENERATION IN VICTORIA

The Commission has analysed the potential returns from investing in a hypothetical 200MW open-cycle gas turbine (OCGT) generator in Victoria. This analysis assumed the following about the hypothetical OCGT plant:

67 AEMO Generation information page, 14 November update, https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information

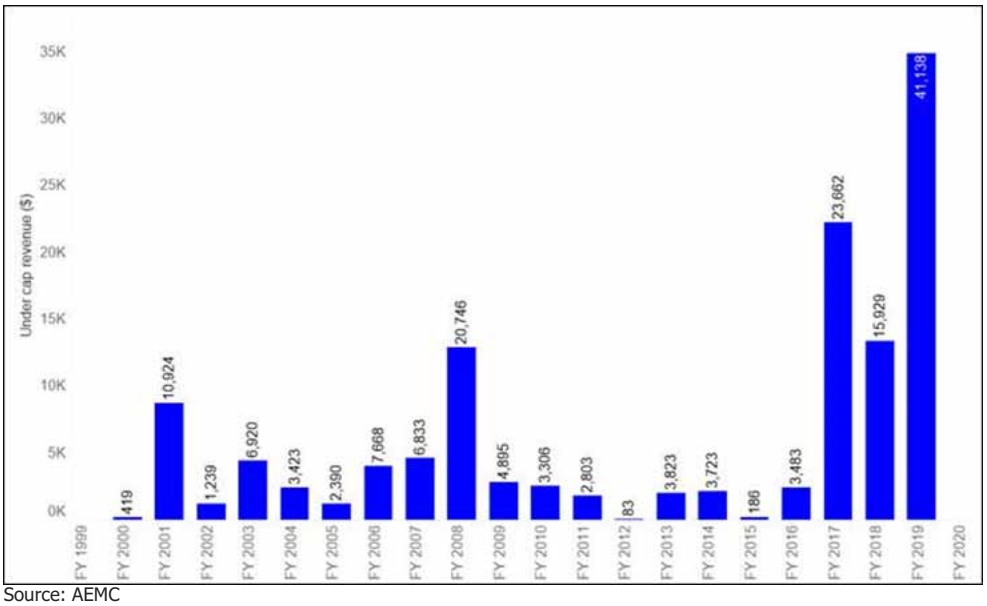
- all its capacity was contracted in the form of selling $300/MWh cap contracts over the life of the generator
- short-run marginal cost (SRMC) of $150/MWh (assuming a gas price of $10/GJ and a heat rate of 15GJ/MWh)
- capital costs of $1 million per MW
- a (inflation-adjusted) weighted-average cost of capital of 10 per cent p.a.
- an operating life of 20 years
- fixed costs of $10,000 per MW.

This hypothetical generator is assumed to have two revenue streams (both electricity based; no FCAS or other ancillary service revenues are assumed):

1. The under-cap revenue – this is based on the difference between the cap strike price ($300/MWh) and the generator's SRMC ($150/MWh), and the corresponding dispatch volume.[a] This revenue accrues to the generator as, when prices are between SRMC and $300/MWh, the cap contract is not exercised and the generator therefore gets paid the spot price for each MWh dispatched.
2. The cap revenue – this is a combination of the cap premium (i.e. the price of the cap contract) and $300/MWh, which is the effective price received by the generator when the spot price exceeds $300/MWh.[b]

The generator's under-cap revenue is shown in the figure below on a per-MW basis, assuming this generator had been operating in the market since NEM start. The under-cap revenue has increased significantly since 2016, in line with the increase in pool prices and settlement amounts.

Figure 2.3: Under cap revenue of unit size OCGT generator in Victoria



Source: AEMC

Assuming the hypothetical OCGT entered Victoria at the start of the 2019 financial year, the Commission's analysis combined the under-cap revenue for 2019 with the revenue received from the cap contract being exercised (i.e. when spot prices exceeded $300/MWh) during 2019. This revenue was then assumed to last for the entire 20-year operating life.

This 20-year revenue was then subtracted from the lifecycle costs of the OCGT plant, leaving the cap premium that the generator would need in order to recover its remaining (fixed and capital) costs. The resulting implied cap premium is $9.58/MW, well below the Victorian cap prices (observed in June 2019) for the 2020 and 2021 financial years (noting that cap prices for 2020 and 2021 have risen since June 2019).

Figure 2.4: Cap contract prices in Victoria

Region	FY 2019-20	FY 2020-21
Victoria	14.04	11.49

Source: AEMC

This analysis suggests that there is a business case for investment, noting the limitations of some of the assumptions used in the analysis.

Source: AEMC analysis

Note: This analysis was carried out in June 2019, using the information available at the time.

a) During these periods, the assumption is that the hypothetical OCGT plant generated to its maximum potential output.

b) When the spot price exceeds $300/MWh, the cap contract is exercised, and the generator pays the cap counterparty the difference between the spot price and the strike price. This difference payment, when netted against with the payment received by the generator in the spot market, results in the generator effectively receiving the cap strike price ($300/MWh), for each MWh settled under the cap contract (which as noted above is equal to the volume generated).

This analysis suggests other considerations may be impacting investment decisions in the Victorian market and not resulting in investment. The Commission's liaison with investors and market participants has highlighted that the following factors may be deterring investment in dispatchable plant:

- The entry of Snowy 2.0, a 2000MW pumped hydro plant in NSW, during the mid-to-late 2020s, which would compete with other forms of fast-start dispatchable plant and may make stranding risk an issue for prospective entrants into the generation sector.
- Uncertainty on carbon emissions policy is an especially pertinent issue for gas-fired generation which could face stranding risks under deeper decarbonisation targets.
- Technology-induced stranding risks, in particular the risk that batteries may become cheaper than peaking plant (gas-fired or pumped hydro). This is being seen in overseas jurisdictions, in California, four-hour batteries are increasingly replacing gas peaking plant as these plant approach major capital expenditures (associated with extensions of technical life).

This is relevant context for considering the issues discussed in this derogation.

3 DRAFT RULE DETERMINATION

This chapter sets out the Commission's draft rule determination and the reasons for its decision. It also outlines the rule making test and the Commission's assessment framework.

3.1 The Commission's draft rule determination

The Commission's draft rule determination is to make a more preferable draft rule. The more preferable draft rule provides a time-limited jurisdictional derogation to allow AEMO to contract for reserve electricity capacity under the RERT mechanism on a multi-year basis (of up to three years) in Victoria.

The draft rule is described below in section 3.4.

The draft rule has been prepared relative to the Enhancement to the RERT final rule, not the current rules at the time that this draft determination is made. This is because the Enhancement to the RERT final rule will be in effect by the time the final determination is made.

The draft rule changes the maximum duration of the Victorian emergency reserve contracts. It outlines that the term of the contract must be based on the length of time that AEMO reasonably expected the emergency reserves will be required to ensure the reliability of supply in the Victorian region. However, the draft rule also makes clear that Victorian contracts must not last longer than three years.[68]

This still affords AEMO discretion as to the length of the contract required, but does make it clear that, where reserves are expected to be required for a period of less than three years, then the contract term should be for the lesser period.

The draft rule does not specify a different trigger for entering into long notice RERT contracts, meaning the trigger specified under the Enhancement to the RERT rule[69] will also be applicable for multi-year reserve contracts under the derogation. The trigger is therefore, a Low Reserve Condition (LRC) declaration by AEMO for a period within the coming 12 months. This trigger is not required to be met in years 2 and 3 of the contract.

The draft rule also seeks to make sure that the amount of RERT procured, for the first year of the multi-year contract, is relative to the shortfall that triggered the entering into of the multi-year contract. This is consistent with the requirement for long notice RERT contracts under the *Enhancement to the RERT* rule change. For the subsequent years of a multi-year contract, AEMO would need to ensure that the volume is no more than AEMO considers is reasonably necessary to ensure the reliability of supply in the Victorian region.[70]

The RERT principles will also guide AEMO's decision-making when entering into multi-year contracting. These principles include to minimise market distortions and impacts on customer bills. In addition, the new principle that will commence with the remaining provisions of the

68 Draft rule clause 9.5.3(b)(1).
69 Clause 3.20.3(f) of the NER post 26 March 2020.
70 Draft rule clause 9.5.3(b) (2)

Enhancement of the RERT rule on 26 March 2020 will also apply to multi-year contracting. That is, when entering into RERT contracts AEMO should consider what the costs of the RERT are relative to the estimated average VCR for the relevant region.

Other aspects of the *Enhancement to the RERT* rule that also apply to multi-year contracting include the additional reporting requirements[71], the out-of market provisions that make clear that the wholesale market is the primary means by which reliability is delivered, and the improved cost recovery process such that costs associated with emergency reserves are recovered, where possible, from those that were consuming at the time that the emergency reserves were needed.

The draft rule includes additional measures for transparency and accountability surrounding the use of multi-year contracting. It requires that as part of the RERT report on reserve contracts, AEMO must:[72]

- identify reserve contracts that are "multi-year Victorian contracts"
- include an explanation of why AEMO considered the term of each contract to be reasonably necessary to ensure reliability of supply in the Victorian region
- include an explanation of why AEMO considered the amount of reserve procured to be, for the first year, reasonable necessary to address the relevant low reserve condition, and for the remainder of the term, reasonably necessary to ensure the reliability of supply in the Victorian region
- the basis on which AEMO took into account the *RERT principles.*

The derogation is set to expire on 30 June 2023. If the final rule is made in March 2020, this will mean the derogation will have an effective period of approximately three years and three months.[73]

If made, the final rule (other than the transitional provisions) will commence operation on 12 April 2020. This date has been nominated following consultation with AEMO.

The final rule will also include some transitional rules. These are:

- By the effective date (that is, 12 April 2020), AEMO must amend and publish the RERT Procedures to take into account the amending rule with those amendments to take effect from the effective date.
- AEMO is not required to comply with the Rules consultation procedures when amending the Procedures. This is due to the fact that the substance of the proposed changes are being consulted on as part of the draft determination.

Following a review of the Panel's RERT Guidelines, the Commission is of the view that amendments to this document are not necessary to account for multi-year contracting in Victoria. The guidelines don't cover the term of contracts or contain specific reporting requirements. The elements of the RERT framework that are addressed include the

71 Other than the requirements at clause 3.20.6(d)(4) and amended requirements at clause 3.20.6(d)(3)
72 Draft rule clause 9.5.4.
73 Draft rule 9.5.2.

procurement trigger, RERT principles, out-of-market provisions and the contracting process, which would all apply to multi-year contracting in any event.

The Commission's reasons for making this draft determination are set out in section 3.4.

3.2 Rule making test

3.2.1 Achieving the NEO

Under the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national electricity objective (NEO).[74]

The NEO is:[75]

> 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 -
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

To assess the proposed derogation, the Commission has had particular regard to the efficient investment in, and efficient operation and use of electricity services with respect to the price and reliability of supply of electricity, and reliability of the national electricity system as it operates in Victoria because:

- the RERT is one of the intervention mechanisms available to AEMO to manage reliability of the power system in the event that the market is projected to not meet the reliability standard; and
- direct costs of the RERT are passed on to consumers, meaning that the RERT has an impact on prices, while the indirect costs such as market distortions also have implications for reliability and prices.

Further information on the legal requirements for making this draft rule determination is set out in Appendix B.

3.2.2 Making a more preferable rule

Under s. 91A of the NEL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NEO.

In this instance, the Commission has made a draft more preferable rule. A summary of the reasons for this decision is provided below. More detailed reasons for making this draft more preferable rule, including detailed analysis of the issues raised and appropriate response to them, are set out in Chapters 4 to 10, as well as the accompanying Appendix A.

74 Section 88 of the NEL.
75 Section 7 of the NEL.

3.3 Assessment framework

In assessing the proposed derogation against the NEO the Commission has considered the following principles:

- **Promoting reliability of the power system**: A reliable power system is a crucial part of the energy market and an important aspect of the long-term interest of consumers. The Commission has regard to the potential benefits to reliability brought about by the proposed solution, weighed against the likely costs, including market distortions.
- **Minimising market distortions**: Minimising market distortions is important in order to minimise indirect costs. In assessing the case for regulation in the presence of a market failure, it is necessary to consider the potential distortionary effects of regulation. Efficient outcomes can be best promoted by aligning the commercial incentives on businesses with the interests of consumers. The Commission has regard to the distortionary impact of the proposed solution.
- **Minimising direct costs**: Procurement efficiency is an important aspect of the RERT and helps to minimise direct costs and improves AEMO's ability to manage reliability. The Commission has assessed the potential costs and benefits in relation to the procurement process.

The assessment framework is consistent with that set out in the consultation paper for this rule change process.

3.4 Summary of reasons

The draft rule made by the Commission, which is a more preferable draft rule, is attached to and published with this draft rule determination. It is described in section 3.1.

Having regard to the issues raised in the rule change request and during consultation, the Commission is satisfied that the more preferable draft rule will, or is likely to, better contribute to the achievement of the NEO than the rule proposed by the Victorian Government. The draft Rule is made for the following reasons:

- **Promoting reliability of the power system:**
  - By providing AEMO with the flexibility to enter into multi-year contracts for emergency reserves in Victoria, the draft rule broadens the pool of RERT providers, which could increase the reserves available at a cost effective price, in the event emergency reserves are needed in Victoria over multiple years.
  - By providing AEMO with an option for acquiring emergency reserves that could, in certain cases lead to lower overall direct costs for consumers, the draft rule could assist AEMO procure the volumes of RERT it needs to minimise load-shedding at a lower cost to consumers.
  - By enabling multi-year contracts to be entered into only where there is an LRC declaration (a breach of the reliability standard) within 12 months, the draft rule maintains the ability for the wholesale market to respond to forecast breaches before an intervention is used. (Under the more preferable draft rule.)

  - By having the derogation in place until such time as the Retailer Reliability Obligation (RRO) can next address reliability issues in Victoria, the draft rule could assist AEMO address reliability issues in the interim, should the reliability situation deteriorate and the market fails to respond. This minimises any costs associated with the draft rule, and so is preferred compared to the proposal made by the Victorian Government. (Under the more preferable draft rule.)
- **Minimising direct costs:**
  - By putting constraints around the contract term, by requiring reserve contracts to only have a term and volume as long as necessary to address supply issues, and capping the term to three years, the draft rule still affords AEMO discretion as to the length of the contract required. However, it does make it clear that, where reserves are expected to be required for a period of less than three years, then the contract term should be for the lesser period. This will reduce the likelihood of unnecessary amounts of RERT from being procured with the costs passed onto consumers. (Under the more preferable draft rule.)
  - As the RERT principles will apply to AEMO's decision-making about whether to enter into multi-year contracts, the draft rule will require AEMO to consider when multi-year contracts would be more cost effective than single year contracts.
  - By applying the tighter procurement trigger that will come in under the Enhancement to the RERT rule change, the draft rule will reduce the risk of multi-year contracts being entered into where there are not reliability shortfalls forecast.
  - By including additional reporting requirements specific to AEMO's decision-making around entering into multi-year contracts, the draft rule ensures there are appropriate levels of transparency and accountability that will promote the minimisation of RERT costs. (Under the more preferable draft rule.)
  - By specifying the requirements are appropriately included in AEMO's procedures, the draft rule ensures that the requirements that aim to reduce costs will be appropriately implemented. (Under the more preferable draft rule.)
- **Minimising market distortions**
  - By applying the RERT principle of minimising market distortions and ensuring AEMO reports on how this principle was factored into AEMO's decision-making about entering into multi-year contracts, the draft rule will help to reduce the likelihood AEMO will enter into contracts that have distortionary impacts on the wholesale market (Under the more preferable draft rule).
  - By restricting the derogation to a shorter period than requested by the Victorian government, the draft rule reduces the impact that multi-year contracting of RERT would have on the wholesale market. (Under the more preferable draft rule.)
  - By clarifying that the out-of-market provisions that will be introduced under the Enhancement to the RERT rule will apply to multi-year contracts, the more preferable draft rule will constrain the potential for perverse impacts arising from multi-year contracting. (Under the more preferable draft rule.)

3.5 Other requirements under the NEL

In applying the rule making test,[76] the Commission has also had regard to:

- confidential information provided by AEMO
- jurisdictional derogation requirements
- recent reports by AEMO covering reliability issues in Victoria including the 2019 ESOO, the Summer Readiness 2019-20 Plan and the 2019 EAAP.

76 Set out in s. 88 of the NEL.

4 RELIABILITY ISSUES IN VICTORIA

In the consultation paper, the Commission sought stakeholder feedback on Victoria's set of reliability challenges and the risks of load shedding. The consultation paper also asked whether stakeholders are aware of any other information that the Commission should consider regarding either the demand and supply balance in Victoria over the short to medium term, and/or the availability of emergency reserves that would be relevant to this derogation proposal.

This chapter outlines:

- the Victorian Government's views about the reliability issues in Victoria
- stakeholder views about the issues
- recent reports on system reliability published by AEMO
- the Commission's analysis and conclusions.

4.1 The Victorian Government's view

As noted in section 1.2, the Victorian Government raised concerns about the reliability of the power system in Victoria in its derogation proposal. The Victorian Government claims:

- the heightened risk of load shedding for the Victorian 2019-20 summer and whether emergency reserves will be available in sufficient volumes to address the risk
- that Victoria is unique in the NEM as it relies on fewer thermal plants than other states
- the duration of reliability issues in Victoria
- the view that AEMO is restricted in procuring adequate volumes of RERT by the current RERT contracting period.

4.1.1 Heightened risk of load shedding for the Victorian 2019-2020 summer

The Victorian Government stated in its derogation proposal that there has been a "material change in conditions" since the Commission made its final determination on the Enhanced RERT in May 2019. [77] The derogation proposal cited the new information provided in AEMO's 2019 ESOO, published August 2019, on the reliability outlook for Victoria.[78]

Based on the forecasts in the 2019 ESOO, the Victorian Government considered that, if the proposed rule was not made, there would be an "inability to contract sufficient RERT reserve capacity over the peak summer demand period in 2019-20" to avoid widespread load shedding in Victoria.[79] The Victorian Government stated that "AEMO has indicated that existing intervention measures (such as the utilisation of demand-response RERT) can not address the magnitude of the forecast USE [unserved energy]." [80]

77 The Honourable Lily D'Ambrosio MP, Victorian jurisdicational derogation -- RERT contracting, rule change request, p. 3.

78 ibid, p. 3.

79 ibid, p. 3.

80 ibid, p.5. USE is energy that cannot be supplied to customers, resulting in involuntary load shedding (loss of customer supply), as a result of insufficient levels of generation capacity, demand response, or network capability, to meet demand.

The Victorian Government highlighted in its derogation proposal the following 2019 ESOO findings:

- A risk of insufficient supply that could lead to between "125 MW and 560 MW of USE in Victoria during summer 2019-20."[81]
- Victoria breaching the reliability standard in 2019-2020.[82]
- A 30 per cent probability that Loy Yang A would remain out of service and a 60 percent probability that the Mortlake unit would remain out of service until 1 March 2020.[83]
- Due to the damage resulting from the failures of the thermal generators, and the extensive repairs required, delayed return to service of one or both units is considered likely.[84]

The derogation proposal states that if no additional supply is secured, involuntary load shedding may be experienced in Victoria during extreme weather events, equivalent to between 260,000 and 1.3 million households being without power for four hours.[85]

4.1.2 Victoria's unique reliance on a few thermal plants

The Victorian Government's derogation proposal also states that: "Victoria is in a unique position in the NEM in that it has a disproportionate dependence on a relatively small number of brown coal generation units, which are becoming increasingly unreliable."[86] The Victorian Government noted that unplanned outages appear to be increasing, and therefore the potential impact of unplanned outages of one or more coal-fired generation units on system reliability is greater in Victoria than any other jurisdiction.[87] The derogation proposal highlighted that:

- Since December 2017, the Loy Lang A and Yallourn power stations have suffered the most outages compared to other gas and coal-fired power stations across the NEM, with 29 and 26 outages respectively.
- Over summer 2018-19, Victoria's coal-fired thermal generators had 16 major outages.

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81 ibid, p. 3. For clarity, the 2019 ESOO identified between 125 MW and 560 MW in Victoria to close the gap to the current reliability standard or reduce the likelihood of exceeding the standard to a 'on-in-10 year event, respectively. AEMO, 2019 ESOO, p. 3.

82 ibid, p. 3. For information, AEMO's forecast breach of the reliability standard in Victoria is based on AEMO's assessment of the probability of two major generating units that were then offline having a delayed return to service. AEMO's modelling has assumed that there was a 30% probability that Loy Yang A Unit 2 would remain out of service until 1 March 2020 and a 60% probability that the Mortlake unit would remain out of service until 1 March 2020. Based on these probabilities, the expected USE would be above the reliability standard at 0.0026%. See AEMO, 2019 ESOO, p. 72.

83 The Honourable Lily D'Ambrosio MP, Victorian jurisdictional derogation – RERT contracting, rule change request, p. 4. AEMO also forecast an 18 per cent probability (or roughly one-five-chance) that neither of these generating units would be available over summer 2019-20. In this latter case, expected USE in Victoria would rise to 0.0047 per cent and may be as great as 0.0168 per cent in the worse case scenario. See AEMO, 2019 ESOO, p. 11.

84 ibid, p. 4. The derogation proposal stated that "generators on such extended outages are often delayed in their return to service due to new, unforeseen issues with the plant that are revealed during repair and recommissioning, or due to delays as parts need to be ordered, sourced and shipped to Australia"

85 ibid, p. 3.

86 ibid, pp. 6 -7.

87 ibid, p. 7.

The Victorian Government noted that "Victoria's current, but transitioning, reliance on this ageing thermal baseload generation increases the State's exposure to potential capacity shortage during periods of peak summer demand".[88]

4.1.3 The duration of reliability problems in Victoria

The derogation proposal argued that Victoria could face reliability problems beyond the 2019-2020 peak summer period into 2020-2021 and 2021-22, even though the 2019 ESOO does not forecast a shortfall for those years comparable to that forecast for 2019-20.[89] The Victorian Government noted that the ESOO forecasts are 'volatile'. As an example, it highlighted the change between the 2018 ESOO and the 2019 ESOO. The volatility in forecasts, the Victorian Government argued, drastically reduces the time available for the market to respond.[90] The upcoming closure of Liddell power station in 2022-2023 is said to represent "the next significant danger period for the Victorian supply reliability beyond the current forecast of shortfall and the coming online of new generation."[91]

The Victorian Government anticipates that supply reliability will be resolved over the longer term by other measures including:

- on market investment in generation and transmission augmentation
- the Retailer Reliability Obligation; and
- the Energy Security Board's post 2025 Market Design for the NEM.[92]

4.1.4 AEMO is restricted in procuring adequate volumes of RERT by the current contracting period

In its proposed derogation, the Victorian Government stated that the RERT is not delivering sufficient reserves to support reliability during the energy transition in Victoria.[93] According to the Victorian Government, allowing for multi-year contracting of up to three years would help to attract greater volumes of reserve capacity generation.[94]

The proposed derogation stated:[95]

- "indications are that maximum market availability for demand-side contracts has been materially reached
- restricting RERT contracts to nine/twelve months is a barrier to participation for those parties who face significant upfront deployment costs (i.e. small-scale generation units); and
- small-scale generation contracts are potentially available, but require greater certainty to be able to cost-effectively recoup their investment within the term of the contract."

88 ibid, p. 7.
89 ibid, p. 4.
90 ibid, p. 4.
91 ibid, pp. 4-5.
92 ibid, p. 8.
93 The Honourable Lily D'Ambrosio MP, Victorian jurisdictional derogation – RERT contracting, rule change request, p. 3.
94 ibid, p. 10.
95 ibid, p .6.

In addition, the Victorian Government considered that the current contract duration is preventing additional supply side resources as they need the certainty provided by longer contract duration to recover their investment costs. The derogation proposal further noted that[96]

> [b]ased on preliminary discussions with potential RERT supply side providers, the Department of Environment, Land, Water and Planning (DELP) is aware that several parties have stated that they are unable to offer in resources below the value of customer reliability within the constraints of a one-year RERT contract. However, these same parties have indicated that they are able to provide substantial new energy generation resources at significantly lower annual cost if multi-year contracts were available.

The Victorian Government also considered that multi-year contracting could diversify the types of RERT reserves held in Victoria. It commented that there is a lack of diversity in RERT contracts in the Victorian region, which are currently dominated by demand-response capacity.[97] The derogation proposal stated that diversity of resource providers is important as not all resources can necessarily be activated for a given shortfall event. This is particularly so for potential demand-side capacity contracted under medium and short-notice RERT.[98]

Finally, the Victorian Government stated that introducing multi-year RERT contracts would make the RERT a more effective instrument to manage the risk of power disruption to Victorian households and businesses in circumstances like extreme weather events and "it allows AEMO greater flexibility to procure a broader base of power supplies for use in emergencies in Victoria".[99]

4.2 Stakeholder views

There were differing views among stakeholders regarding the reliability of the power system in Victoria. Some stakeholders agreed with the Victorian Government's view that the state faces significant reliability challenges. Others did not consider there to be sufficient evidence to support the Government's conclusions. A number of stakeholders did not express a view on this issue.

The following sections set out stakeholders' views on reliability of the power system in Victoria including:

- the heightened risk of load shedding during the 2019-2020 summer peak in Victoria
- Victoria's reliance on fewer thermal plants that are ageing and increasingly unreliable
- reliability after the 2019-2020 summer
- duration of reliability issues in Victoria
- inadequacy of the current long notice RERT contract duration

96 ibid, p. 6.
97 ibid, p. 6.
98 ibid, p. 6.
99 ibid, p. 10.

- potential for multi-year contracting to provide AEMO with more flexibility to manage reliability issues in Victoria

4.2.1 Heightened risk of load shedding during the 2019-2020 summer peak in Victoria

There were differing responses to the Victorian Government's concern about the heightened risk of load shedding in Victoria for the 2019-2020 summer peak period.

AEMO noted that the 2019 ESOO forecasts tightly balanced supply and demand in all NEM regions for the 2019-2020 summer with Victoria the only region forecast to breach the reliability standard. The risk of load shedding in Victoria this summer is, according to AEMO, due to the extended outages of two major power stations, Loy Yang A2 and Mortlake 2, which would pose a significant risk of insufficient supply if the outages extended into the summer peak. [100] Mondo noted "the concerns about supply reliability for the coming summer in Victoria given the improving, but not yet complete, return to service of the Loy Yang A and Mortlake units".[101]

The Australian Energy Council (AEC), Alinta Energy, ENGIE, the Energy Users Association of Australian (EUAA), ERM Power and the Queensland Energy Users Network (QEUN) suggested that the 2019 ESOO's forecast of a breach of the reliability standard in Victoria in the 2019-2020 summer is based on a conservative set of assumptions:[102]

- Several stakeholders referred to the availability information that AGL and Origin have provided into the MT-PASA and/or announced to the market as strong indications that the current outages at Loy Yang A2 and Mortlake 2 will not extend into the summer period.[103]
- AEC noted that the ESOO's forecast of a breach of the reliability standard in Victoria for the 2019-2020 summer was also based on the assumption that AGL Energy would be unable to achieve agreement of the South Australian Government to extend the operation of its Torrens Island A plant through the summer and that the South Australian plant would therefore not be able to support reliability in Victoria.[104]
- ERM Power noted that the ESOO USE forecast scenario excluded the availability of nine emergency diesel units in South Australia, which are currently operated by SA Power Networks on behalf of the South Australian Government and are able to help address reliability issues in Victoria.[105]
- Stakeholders, including the AEC, did not consider that there would be a heightened risk of load shedding this summer due to their understanding that AEMO would procure sufficient amounts of RERT ahead of the peak summer period.[106]

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100 AEMO submission, 21 November 2019, p. 3.

101 Mondo submission, 26 November 2019, p. 2.

102 Submissions to the consultation paper: AEC, p.3., Alinta Energy, p. 1., ENGIE, p. 2., the EUAA, p. 5., ERM Power, p. 4., the QEUN, p. 2..

103 Submissions to the consultation paper: EUAA p. 7., QEUN, p. 2., ERM Power, p.. 3-4..

104 AEC submission to the consultation paper, 20 November 2019, pp. 3-4.

105 ERM Power submission to the consultation paper, 21 November 2019, p. 3.

106 AEC submission to the consultation paper, 20 November 2019, p. 2 and 4.

4.2.2 Victoria's reliance on fewer thermal plants that are ageing and increasingly unreliable

AEMO agreed with the Victorian Government's assessment that the ageing brown coal generators in Victoria are exacerbating the risks of load shedding in Victoria, particularly the impact of coincident events where high temperatures cause unplanned generator outages and higher peak demand, and there is low output of renewable energy generation plant.[107] AEMO cited that, in one single heatwave in Victoria that lasted for two days, the amount of electricity supply lost (including involuntary load shedding and those avoided by the RERT dispatch) was approximately equal to 2.5 times the region's annual reliability standard.[108]

The AEC expressed a contrasting view about whether ageing thermal plants are contributing towards reliability issues for Victoria. It disputed the allegation that brown coal generators in Victoria are becoming increasing unreliable. The AEC stated the allegation is "unproven" and suggested it is "due to the natural variation in forced outage rates overtime".[109]

4.2.3 Reliability after the 2019-2020 summer

AEMO highlighted the established trend towards much hotter summers. The 2018-2019 summer, for instance, was the hottest on record with January 2019 being the hottest month in Australia to date.[110] With hotter summers and ageing thermal plants causing reliability issues in Victoria, AEMO "only forecasts slight improvements in reliability for peak summer periods" following the 2019-20 summer.[111]

Mondo considered there to be a reliability issue in Victoria, caused by "the ongoing transition to new generation technologies, unpredictability of operational demand growth, and uncertain policy environment is likely to create medium term risks that may mute efficient market-based investment in new supply. Ultimately, it will be Victorian electricity consumers who are exposed to the risk of non-supply."[112]

Other stakeholders felt that the Government's reliability concerns were based on input assumptions that were too conservative. According to the EUAA, this was because "the Victorian Government (and perhaps AEMO) have more incentive to minimise disruptions to the power system than to minimise costs associated with that activity."[113] This view was echoed by ERM Power who stated the forecasts: embody an overly-pessimistic view of generator outages; under-forecast demand response; and scale up historical demand levels to the 10 per cent demand forecast despite the fact this demand level has never been exceeded in Victoria. This is because while customers experience load shedding on a rotational basis, AEMO will experience it as a single event and "the system operator would be affected to a greater extent than each consumer would".[114]

107 AEMO submission to the consultation paper, 21 November 2019, p. 3.
108 AEMO submission to the consultation paper, 21 November 2019, p. 3.
109 AEC submission to the consultation paper, 20 November 2019, p. 3.
110 ibid, p. 4.
111 ibid, p. 4.
112 Mondo submission to the consultation paper, 26 November 2019, p. 2.
113 EUAA submission to the consultation paper, 21 November 2019, pp. 5-6.
114 ERM Power submission to the consultation paper, 21 November 2019, p. 3.

ERM Power and EUAA further noted that forecasts can be volatile and inaccurate with forecast shortfalls often not eventuating.[115] The AEC expressed the view that the reliability framework assumes that the reliability standard is a "target met as an average over time." Further the AEC stated that there will be occasional years where the reliability standard will be moderately exceeded and that is not a "fundamental concern"[116].

4.2.4 The duration of reliability issues in Victoria

Stakeholders had differing views on the length of time that Victoria will experience reliability issues.

AEMO suggested that the reliability issues in Victoria will continue to be uncertain until new transmission, dispatchable supply and demand resources become available. Furthermore, AEMO stated that the tail risk in Victoria will continue to be an issue until such time that the RRO is embedded, and the reliability standard is reviewed.[117]

In contrast, the AEC, ERM Power and ENGIE argued that the only time the reliability standard is forecast to be breached is the 2019-2020 summer. While these stakeholders questioned the validity of the ESOO's forecast reliability standard breach, they pointed to this as evidence that Victoria will not have reliability issues beyond March 2020.[118]

In addition, ERM Power disputed the Victorian Government's view that the closure of the Liddell Power station after 2022-2023 summer period will have a negative impact on reliability in Victoria. ERM Power noted that this was included in the ESOO which did not forecast a breach of the reliability standard in Victoria due to this retirement.[119]

AEC and ERM Power argued that there is a reduced probability of future supply shortfalls given the amount of new generation expected to be built in Victoria with the AEC stating that "more than 2GW of committed generation preparing to connect, with a further almost 9GW proposed".[120] ERM Power stated that "Generation facilities like the Stockyard Hill and Moorabool wind farms are due to come online over the next 12 months with more to follow".[121]

While several stakeholders expressed concern about the permanent introduction of multi year contracting in Victoria, some commented that it would be acceptable as a short term measure in order to help address the reliability issues in the state. EUAA and ERM Power considered that it is not a "short term derogation" as it would be in place several years after closure of Liddell and the commencement of the RRO.

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115 Submissions to the consultation paper: EUAA, p. 8; ERM Power, p. 4.

116 AEC submission to the consultation paper, 20 November 2019, p. 3

117 AEMO submission to the consultation paper, 21 November 2019 pp. 4 and 5. In the 2019 ESOO, AEMO characterised the term 'tail risk' in this way: "AEMO observes greater risks of load shedding due to uncontrollable, but increasingly likely,high impact ('tail risk') events such as coincident unplanned outages" p. 3.

118 Submissions to the consultation paper: AEC, pp. 1-2; ERM Power, p. 4; ENGIE, p. 2.

119 ERM Power submission to the consultation paper, p. 4.

120 AEC submission to the consultation paper, p. 2.

121 ERM Power submission to the consultation paper, p. 4.

Several stakeholders noted that the Retailer Reliability Obligation is likely to address the reliability issues and so the derogation duration should be reduced to take this into account.[122] The AEC noted that if the 2020 ESOO triggers the RRO then it will be able to address reliability issues from the 2023-2024 summer. Therefore, the derogation should end in June 2023 (running for three years rather than five).[123]

AGL and ERM Power noted that the commencement of the proposed wholesale demand response mechanism in June 2022 would also help to address reliability issues.[124]

4.2.5 Inadequacy of the current long notice RERT contract duration

Several stakeholders responded to the Victorian Government's concern that AEMO would be unable to procure sufficient RERT volumes to address the state's 2019-20 summer supply shortfall. AEC, QEUN, ENGIE and Alinta Energy did not agree that AEMO may be unable to procure sufficient RERT volumes this summer, on the basis of past procurement volumes and the absence of supporting evidence.[125] AEMO confirmed in its submission to the consultation paper that it has "procured the RERT it needs in preparation for the coming summer period"[126]

For future summer peak periods, AEMO considered that, "in view of the ongoing tail-risk in Victoria", multi-year contracting offers benefits of reduced risks and costs, and greater competition and reserve diversity.[127] Specifically, the current RERT contracting period prevents small-scale generation from offering in as this generation requires greater investor certainty to recover costs over the contract period.[128] Enel X, a demand response provider, considered that the absence of multi-year RERT contracts has led to a significant level of untapped latent demand response"[129] AEMO stated the flexibility afforded by multi-year contracts may be particularly useful should the current ESB review of the reliability standard lead to a revised reliability standard, and breaches of the standard being forecast more often and for multiple successive years.[130]

Several stakeholders did not consider that AEMO's ability to effectively manage reliability in Victoria is impeded by the current duration of long notice RERT contracts. The EUAA disputed the Victorian Government's claim that a change is needed to stimulate supply-side reserves as "maximum market availability for demand-side contracts has been materially reached". The AEC and Snowy Hydro noted that AEMO has other options available to it to under the Reliability Framework to manage reliability issues. These include, short and

122 Submissions to the consultation paper: AEC, p. 4., ERM Power, p. 4., AGL, p. 2., AER, p. 2. and ENGIE, p.2..
123 AEC submission to the consultation paper, p. 4.
124 Submissions to the consultation paper: AGL, p. 2; ERM Power, pp. 4-5.
125 Submissions to the consultation paper: AEC, p. 2; QEUN, p. 2, ENGIE, p. 2. and Alinta Energy, p. 1.
126 AEMO submission to the consultation paper, p. 4.
127 AEMO submission to the consultation paper, pp. 4 -5.
128 ibid, pp. 4-5.
129 Enel X submission to the consultation paper, p. 2.
130 ibid, pp. 5-6. AEMO noted that "the current approach does not provide it with enough flexibility as the procurement decision is linked to the reliability standard" and the "current average metric is not an appropriate measure, as the average USE metrics conveys no information about the extent of tail risks".

medium notice RERT, directions, information to the market, market incentives and settings.[131] ENGIE noted that with a tight supply-demand balance there should be a high chance of price cap events and should the market not respond, other potential tools could be utilised such as triggering the RRO or building of capacity supported by the Commonwealth Government's Underwriting New Generation Investment (UNGI) program.[132]

The AEC and ERM Power also pointed to the Commission's draft MT-PASA rule to increase the length of the forecast to three years, which would provide information to the market on a more granular basis and enable issues to be identified and resolved by the market more quickly."[133]

4.2.6 Potential for multi-year contracting to provide AEMO with more flexibility to manage reliability issues in Victoria

An argument advanced by several stakeholders is that a larger, more diverse pool of long notice RERT bids would give AEMO more flexibility to cost-effectively manage reliability in Victoria. AEMO suggested that additional reserve resources, such as small-scale generation, could become available under multi-year contracts. [134] AGL also stated that "[m]ulti-year contracting would likely entice greater levels of participation in the RERT".[135] Similarly, Origin noted the additional certainty for capacity providers could potentially increase the pool of RERT providers available to AEMO through greater diversification.[136]

In addition to the potential for multi-year contracting to attract more supply side providers, AEMO agreed with the Victorian Government that multi-year contracting is also likely to facilitate the development of further demand response options.[137] Enel X agreed with this view and noted that the funding certainty from the joint AEMO/Australian Renewable Energy Agency (ARENA) demand response trial, which is a three year program[138] allowed it to "offer very competitive bids" into RERT: "as a result, we were able to build a portfolio of 30 MW in Victoria and 20 MW in NSW".[139]

4.3 Analysis

If made, the proposed derogation would not be in place for the 2019-2020 summer peak period, given that the final determination is not scheduled to be published until March 2020. As such for the purposes of this draft determination, the Commission is primarily interested in understanding the reliability issues facing Victoria for the short to medium-term period that follows the 2019-2020 summer.

131 Submissions to the consultation paper: AEC, p. 2; Snowy Hydro, p. 4.
132 ENGIE submission to the consultation paper, p. 2.
133 Submissions to the consultation paper: AEC, p. 3; ERM Power, p. 3.
134 AEMO submission to the consultation paper, pp. 4-5.
135 AGL submission to the consultation paper, p. 2.
136 Origin submission to the consultation paper, p. 1.
137 AEMO submission to the consultation paper, p. 4.
138 The ARENA demand response trial that provides subsidies to support the development of demand response and enables participants to provide RERT services. The three year trial ends November 2020.
139 Enel X submission to the consultation paper, p. 2.

However, in relation to the likelihood of a shortfall in market reserves during the 2019-2020 summer, the Commission notes the forecast breach of the reliability standard in the 2019 ESOO for the 2019-2020 summer is based on the risk that the two Victorian thermal generators currently offline (Mortlake Unit 2 and Loy Yang A Unit 2) would have their outages extended into the peak summer period. The Commission notes that this is different to the information contained in the MT-PASA. In addition, the Commission notes that, at the time of this draft determination, both plants were planning to return to service by the end of December 2019.[140] Nevertheless, the Commission notes AEMO's forecasts included in the 2019 ESOO given its operational experience of outages.

Where findings and observations regarding the 2019-2020 summer reliability outlook are relevant to future reliability issues, they are raised in the subsequent sections of this chapter.

This section presents the Commission's analysis of:

- recent AEMO reports on power system reliability in Victoria
- Victoria's challenging set of reliability issues for the coming years that the RRO cannot address
- AEMO's needs for flexibility to manage the reliability issues in Victoria

4.3.1 Recent AEMO reports on power system reliability in Victoria

Since the Commission published its consultation paper for this rule change request, AEMO has published its Summer 2019-20 Readiness Plan (the Summer Readiness Plan) and the 2019 Energy Adequacy Assessment Project (EAAP).

Risks for reliability in the 2019-2020 summer

The Summer Readiness Plan notes that the following risks in relation to reliability for the 2019-2020 summer in Victoria[141]:

- The Bureau of Meteorology (BoM) is forecasting an increased risk of bushfires, with drier conditions, extreme temperatures, and an earlier start to the bushfire season resulting in an extended fire season. Bushfires can directly impact generators and transmission networks.
- This summer, the BoM predicts warmer than average temperatures, with an increased risk of early season extreme heat resulting in short but sharp heatwaves in southern Australia. Extreme temperatures and extended heatwaves elevate the risk of extreme peak demands on the network and can limit generator capacity or lead to equipment failures.
- The electricity peak in each region is forecast to be similar to historical levels.
- Extreme conditions can impact the adequacy and availability of generation and network resources when they are needed for the power system to meet demand.

140 The Commission notes that Mortlake updated the MT-PASA at the end of November 2019 to advise that its return to service would be delayed by ten days.

141 AEMO, Summer 2019-20 Readiness Plan, 4 December 2019, pp. 3-4.

- The risk of USE in Victoria is more acute if there is any delay in the planned return to service of Loy Yang A (Unit 2) and Mortlake Power Station (Unit 2).

RERT resources

In terms of the RERT, AEMO advises in the readiness plan that, in consultation with governments, AEMO has identified additional reserves under the RERT for the coming summer. Short or medium notice RERT reserves have been identified across most NEM regions as a precautionary measure under AEMO's panel agreements. Reserve contracts for those resources are only formed when it is considered likely they will be needed. Long notice RERT has only been sought in Victoria as a result of the forecast potential for the reliability standard not to be met.

AEMO has available:[142]

- Reserves from the third year of the three-year joint AEMO/ARENA demand side participation trial. Under this trial, 149 MW of reserves are currently available, of which 64 MW can support reliability in Victoria.
- 61 MW of off-market reserves using long notice RERT contracts, bringing the total to 125 MW.
- Based on previous experience, the nature of the resources, and RERT offer block sizes, an additional 11 MW has been secured to cover the risk of some contracted resources not being available when required (a total of 72 MW). This brings the contracted RERT for Victoria to 136 MW.

AEMO has also received expressions of interest in more than 1,000 MW of short and medium-notice RERT panel agreements in Victoria and South Australia, which will be available to cover risks associated with extreme system scenarios.[143] This is a significant component of the total 1,500 MW of emergency reserves across the NEM for which it has received expressions of interest. In addition, AEMO noted that negotiations for short and medium-notice RERT are continuing, and the final amounts accessible under panel agreements will be published by AEMO in accordance with the RERT Guidelines. [144]

On 4 December 2019, AEMO stated that:[145]

> It is pleasing to see the level of interest from RERT providers, as this initiative enables AEMO to have sufficient resources to manage possible high-risk scenarios that can occur in summer, such as extreme or extended heatwaves, bushfires and unplanned generation or transmission outages.

142 AEMO, *Summer 2019-20 Readiness Plan*, 4 December 2019, pp. 12, 14, 15. Compared to RERT procurement for last summer, AEMO anticipates that they will have more emergency reserves under panel arrangements, with slightly more long notice RERT and similar amounts under the ARENA demand side participation trial arrangements.

143 AEMO, Summer 2019-20 Readiness Plan, 4 December 2019, p. 14.

144 Reliability Panel, Reliability and Emergency Reserve Trader Guidelines, Final guidelines, July 2019.

145 AEMO, AEMO releases energy summer readiness report, Media Release, 4 December 2019, accessed 3/12/2019 at https://energylive.aemo.com.au/News/Summer-readiness-report . Relatedly, as at 21 November 2019 AEMO considered that "AEMO has procured the RERT it needs in preparation for the coming summer period." AEMO submission to the consultation paper, p. 4.

In order to provide an indicative cost comparison for RERT in 2019-2020, AEMO has calculated the cost of using the assumed 2019-2020 RERT portfolio for the same conditions that occurred on 24 and 25 January 2019. AEMO estimated this cost to be approximately $40.4 million, which would cover the quantity of RERT required to meet all demand in the same conditions (that is, avoiding the 538 MW of load shedding that actually occurred). After adding in availability payments of $3.9 million under long notice RERT contracts for 2019-2020, the total RERT cost is estimated to be around $44 million for the period 1 November 2019 to 31 March 2020. [146] AEMO noted that it will continue to assess expected unserved energy against the reliability standard up to and during the summer:

- Assumed available generation capacity will be based on the latest available advice from participants, including information sourced from PASA across all time horizons and the Generator Energy Limitation Framework survey (GELF).
- AEMO will monitor the return to service of the units of Loy Yang A (Unit 2) and Mortlake Power Station(Unit 2) that are currently on long-term outages.
- If at any time this review process indicates additional reserve is required to meet the reliability standard under forecast conditions, beyond the RERT already secured, AEMO will consider seeking more reserves, as appropriate, relative to the timing and quantity of the projected reserve shortfall.

The Energy Adequacy Assessment Projection

AEMO's Energy Adequacy Assessment Projection (EAAP) report provides information on the impact of potential energy constraints, such as water storages during drought conditions or constraints on fuel supply for thermal generation, on supply adequacy in the NEM.[147]

In the 2019 EAAP, AEMO stated that there remains a risk of USE in Victoria particularly under peak demand conditions for 2019-2020. However, based on the EAAP's methodology, assumptions, and inputs, the expected USE is below the reliability standard in all rainfall scenarios. Due to use of slightly different input assumptions, the EAAP forecast of USE is below the forecast in the 2019 ESOO, and current MT-PASA forecasts.[148]

For the 2020-2021 summer period, the 2019 EAAP finds that USE declines slightly in Victoria under all rainfall scenarios as a result of more variable renewable energy generation and some relatively small batteries coming online.[149]

In addition, the Commission notes that unlike the ESOO, the EAAP does not factor unplanned generator outages into its forecasts. AEMO notes in the EAAP that generating units returning to service can, on occasion, require an extended re-commissioning process to ensure

146 AEMO, Summer 2019-20 Readiness Plan, 4 December 2019, p. 15. Note that the report does not contain an estimate of costs for the Victoria region.

147 The EAAP forecasts electricity supply reliability in the NEM over a two-year outlook period. The EAAP complements AEMO's other reliability assessments such at the MT-PASA and the ESOO, with a primary focus on energy constraints on reliability in the next two years. These include water availability for hydro generation and cooing water for thermal generation and constraints on fuel supply for thermal generators.

148 AEMO, 2019 EAAP, November 2019, pp. 3 and 9. Unlike the 2019 ESOO, the 2019 EAAP does not consider the risk of delays to return to service of the Loy Yang A and Mortlake units and assumes that all eight of Torrens Island units are made available this summer.

149 AEMO, 2019 EAAP, November 2019, p. 9.

sufficient levels of control, stability and reliability are established. If the units returning to service after an extended outage require repeated commitments and de-commitment to establish such control and reliability, or even further periods offline for any length of time during summer, this situation could materially increase the risk of USE.[150]

4.3.2 Victoria faces a challenging set of reliability pressures for the coming years that the RRO cannot address

Based on the feedback in submissions and the information set out below, the Commission considers there are challenging reliability pressures facing Victoria in the short to medium term.

In a range of reports, AEMO has concluded that a key risk in relation to (generation) reliability in the NEM is the increased likelihood of the occurrence of coincident events over peak summer periods arising from extreme summer temperatures. The key coincident events include unplanned generator outages, high demand and low renewable generation. For example, AEMO notes in its 2019-2020 summer readiness plan that "the risk of supply interruption is primarily driven by increased vulnerability to climatic events such as extended periods of high temperature, corresponding with low wind and solar availability and unplanned generation outages".[151]

As noted by AEMO, the January 2019 Victorian load shedding event demonstrated that this particular combination of events can have significant consequences for Victorian residents, especially when they can result in load shedding events that are widespread and occur on consecutive days.[152]

Tightening of the supply and demand balance in Victoria

The Commission notes the AER's assessment that Victoria has a tight supply-demand balance.[153]. It also notes AEMO's view that this makes Victoria particularly vulnerable to uncontrollable, high impact events.[154]

The AER has recently presented data on the supply-demand balance in each region of the NEM. The data and analysis presented by the AER indicates that the exit of thermal plant has led to a tightening in the peak demand-supply balance since 2012 in all NEM regions, with excess capacity halving in this time (Figure 3.3).[155]

Relevantly, excess capacity has declined the most in Victoria in percentage terms (a 71 per cent decline, or 1.3 GW) and NSW (56 per cent decline, or 1.7 GW). These declines have occurred despite the significant amount of new variable renewable generation that entered

150 AEMO, 2019 EAAP, November 2019, pp. 14-15.

151 AEMO, Summer readiness 2019-20 plan, page 16. See also AEMO, 2019 ESOO, pp. 3, 7.

152 AEMO submission to the consultation paper, pages 3-4.

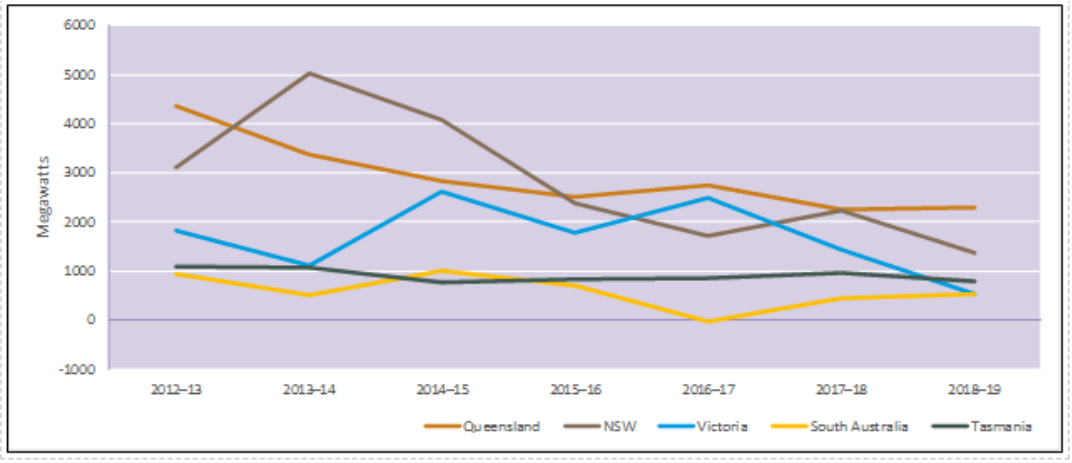
153 AER, State of the Energy Market *2018*, p. 103

154 AEMO, ESOO, p.103.

155 AER, *State of the Energy Market 2018*, p. 103. For each region and for each financial year, excess capacity is defined as maximum demand minus summer capacity (nameplate capacity for non-scheduled plant) as at 31 January of that financial year. In Figure 4.1, Victorian summer capacity for 2016–2017 includes Hazelwood, with closure of that plant reflected in 2017–2018 data. Wind and solar summer capacity is de-rated based on AEMO's 'firm contribution' estimates to account for generation likely to be operational during periods of maximum demand.

the NEM between July 2012 and June 2019. The AER note that this partly reflects the fact that much of this extra capacity is variable generation, which may not necessarily generate output at times of peak demand.[156]

Figure 4.1: Excess generation capacity in each NEM region



Source: AER *State of the energy market, 2018,* Figure 2.22, p. 103.

As indicated by the figure, since 2012-2013, there has been a more significant decline in Victoria's excess capacity since 2016-2017 compared to other regions. This is chiefly due to:

- the exit of Hazelwood power station (a 1,600MW brown coal generator)
- a lack of entry of new dispatchable plant such as gas-fired generation, compared for instance to South Australia.

On the supply side, AEMO has noted that across the NEM "[t]here is a substantial pipeline of future projects not yet committed but in various stages of development, from publicly announced to advanced stages of planning."[157] However, in terms of generation type, the EAAP does not identify any new dispatchable generation projects entering Victoria in the coming two years.[158] AEMO's ESOO also indicates that no new dispatchable generators and comparatively little storage is currently expected in Victoria beyond those already committed.[159]

In addressing the impacts of the supply-demand balance in Victoria, AEMO stated that: [160]

> Compared to last year's ESOO forecast, and based on improved model representation of input uncertainties, AEMO observes greater risks of load shedding due to

156 Wind and solar is derated, as explained in the previous footnote.
157 AEMO, 2019 ESOO, p. 70.
158 AEMO, 2019 EAAP, Appendix, committed and Com* projects.
159 See Figure 28, AEMO, 2019 ESOO, p. 70.
160 AEMO submission to the consultation paper, p. 3.

> uncontrollable, but increasingly likely, high impact ('tail risk') events such as coincident unplanned outages of aging generation assets, higher peak demand due to more extreme weather events, and uncertain output of renewable energy generation plant.

Further, regarding the two to five-year time horizon AEMO considered that:[161]

> The new renewable generation coming online makes only a small improvement to the reliability outlook. Victoria, in particular, remains vulnerable to uncontrollable, high impact events such as prolonged or coincident generator outages, as experienced last summer and again in winter 2019.

The risks associated with Victoria's reliance on an aging fleet of brown coal generators

The Commission has considered the argument made by the Victorian Government in its derogation proposal, that significant reliability risks arise in Victoria as the region's dispatchable resources consists largely of an aging fleet of brown coal generators. The Victorian Government considered that these generators are likely to be become increasingly unreliable over time.

AEMO has recently analysed the performance of the Victoria's fleet of brown coal generators. The 2019 EAAP states:[162]

> In recent years, the average availability factor of the Victorian brown coal fleet has been in decline, with analysis of the last three years of performance showing an 8% reduction in availability when compared to the same period in 2016-17, even after adjusting outage of Loy Yang A2. If the extended outage of Loy Yang A2 was also included in this assessment, availability year to date would be at 78% which is an 18% reduction compared to 2016-17.

161 AEMO, 2019 ESOO, p.103.

162 AEMO, 2019 EAAP, November 2019, p. 15

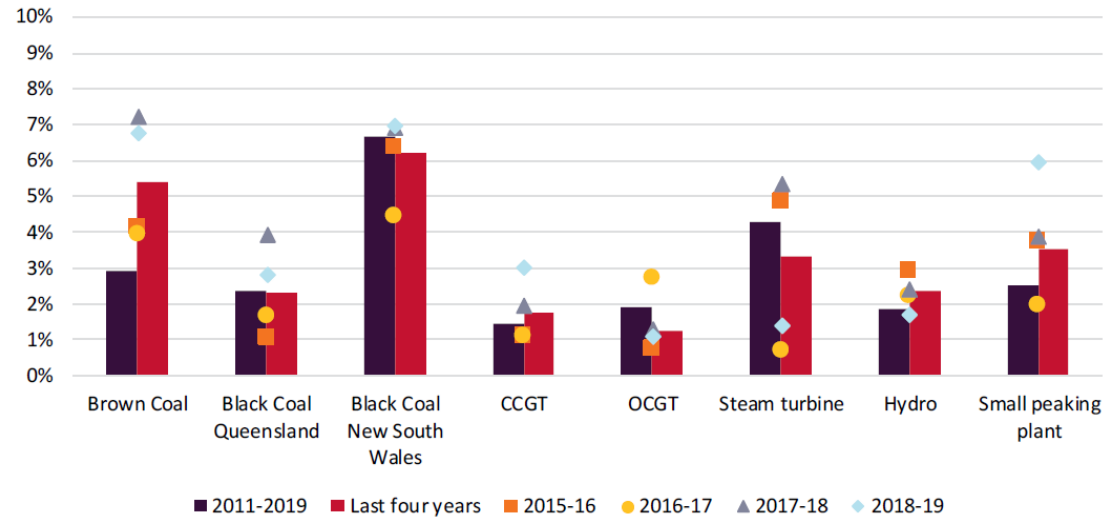
Figure 4.2: Availability of the current Victorian brown coal fleet

Source: AEMO, Energy Adequacy Assessment Projection, November 2019, page 15.

Note: Applies from 1 July to 18 November, FY16 to date. Current Victorian brown coal fleet refers to Loy Yang A, Loy Yang B and Yallourn power stations. Analysis based on market availability.

In the 2019 ESOO, AEMO compared the performance of the Victorian brown coal generators to other generators across the NEM, summarised in figure 4.3.[163]

Figure 4.3: Historical full forced outage rates comparison



Source: AEMO, Electricity Statement of Opportunities (ESOO), August 2019, page 68.

163 AEMO, 2019 ESOO, Figure 26 Historical full forced outage comparison, p. 68

AEMO concluded that:[164]

> The reliability of some dispatchable generating plant, particularly in Victoria, has continued to remain at lower levels compared to long-term averages, reflecting the aging of the generation fleet.

More specifically:[165]

> The biggest discrepancy between the long-term outage rates and performance in recent years is for brown coal, where recent forced outage rates sit well above the long-term average. There is approximately a 2.5% increase in the full forced outage rate of brown coal using the last four years' average compared to the nine-year average. The last two years have had the highest rates recorded, and all of the last four years' rates have been above the long-term average. The outage rates calculated do not include a number of major outages which were not designated as unplanned forced outages, and the rates do not include the impact of current major generation outages such as the outage at Loy Yang A Power Station.

The Commission recognises that a particular concern in relation to power system reliability is where outages are unplanned. These are harder to forecast; and, in addition, as AEMO has highlighted in the ESOO, tend to be caused by extreme high temperatures (which given the increased demand arising in this time, is when the resources are needed).[166]

Growing variable generation and no new investment in dispatchable generation

The Commission acknowledges that the new investment in more variable generation, as noted by AEC and ERM Power, will help support reliability in Victoria. However, by definition, variable generation depends on the weather conditions at a particular point in time and so cannot be relied on to be generating in peak demand periods.

AEMO has observed that solar and wind generation tends to be low during the periods of high demand when USE events tend to occur. It has stated that "the risk of load shedding in Victoria is higher during periods of low wind and solar production".[167] AEMO further noted that "[i]n periods of USE, wind is operating (on average) at approximately 16% of its installed capacity, and large-scale solar at 30%".[168] Specifically, wind typically drops during heatwaves and solar PV becomes increasingly less efficient as temperatures rise. This occurred in January 2019 in Victoria, when the RERT across consecutive days and involuntary load shedding.[169]

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164 AEMO, 2019 ESOO, p. 65.

165 ibid p. 67.

166 This was supported by AEMO's submission to the consultation paper, p. 3. AEMO's 2019 ESOO assumes lower full and partial forced outage rates for the Victorian brown coal fleet than for the NSW black coal fleet (see Table 12 of 2019 ESOO). However, Victoria has a tighter aggregate demand-supply balance than NSW (about 850 MW, or 9% of Victorian peak demand; see Figure 4.1). This implies that the consequence to reliability of a forced outage to Victorian brown coal plant is greater than a forced outage of NSW black coal plant, despite the probability of a forced outage of NSW black coal plant being higher.

167 AEMO, 2019 ESOO, p. 76.

168 ibid.

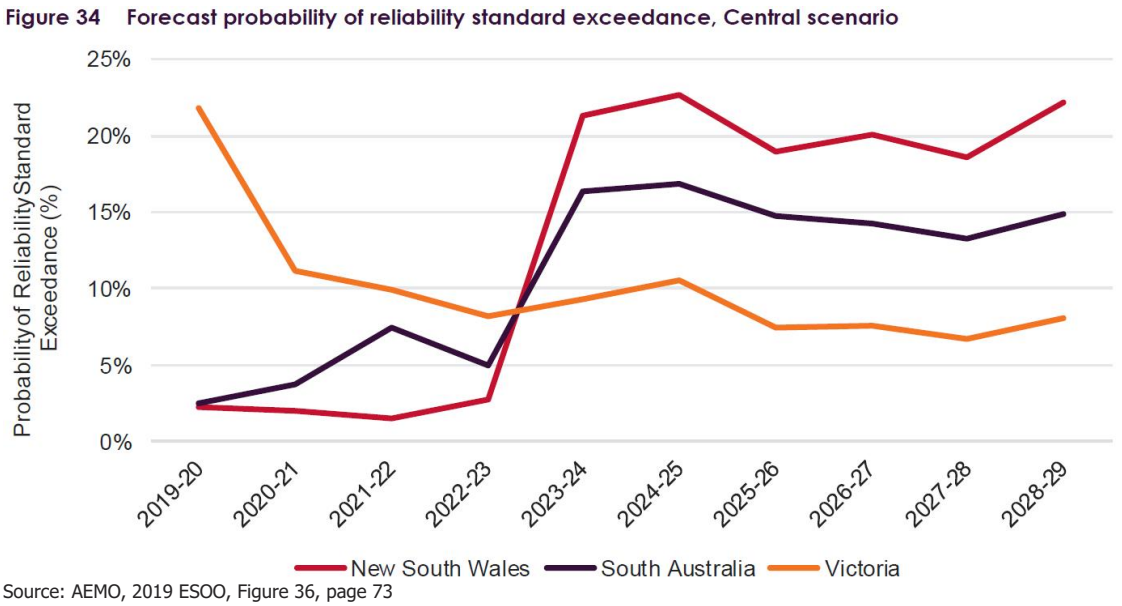
169 ibid.

Given this, one reason for the tight demand and supply balance in Victoria is not only due to the exit of large thermal generators but also the lack of entry of new dispatchable generation that can help to maintain reliability during peak periods. While as reported by AEMO at November 2019 there are over 2,200 MW of large-scale wind and solar projects slated for full commercial use by July 2021 in Victoria, there is only 20 MW of large scale battery projects reported for full commercial use over the same period.[170] No new dispatchable plant is expected to enter Victoria in 2020 or beyond.[171]

Breaches of the reliability standard

AEMO's forecasts are not showing a breach of the reliability standard beyond the 2019-2020 peak summer period. However, the Commission notes AEMO's assessment in the ESOO that Victoria is more likely than other states to breach the standard up until 2023-2024, as shown in Figure 4.3.

Figure 4.4: Forecast probability of reliability standard exceedance



Source: AEMO, 2019 ESOO, Figure 36, page 73

As noted by AEMO the vulnerability of a power system to high temperatures is a key driver of probability of reliability standard exceedence.[172] According to AEMO, the effect of potential heatwaves and high temperatures is likely to make USE probability distributions more 'fat tailed' (or, in AEMO's phrasing, increased 'tail risk'), as heatwave-induced extreme load shedding becomes more probable.

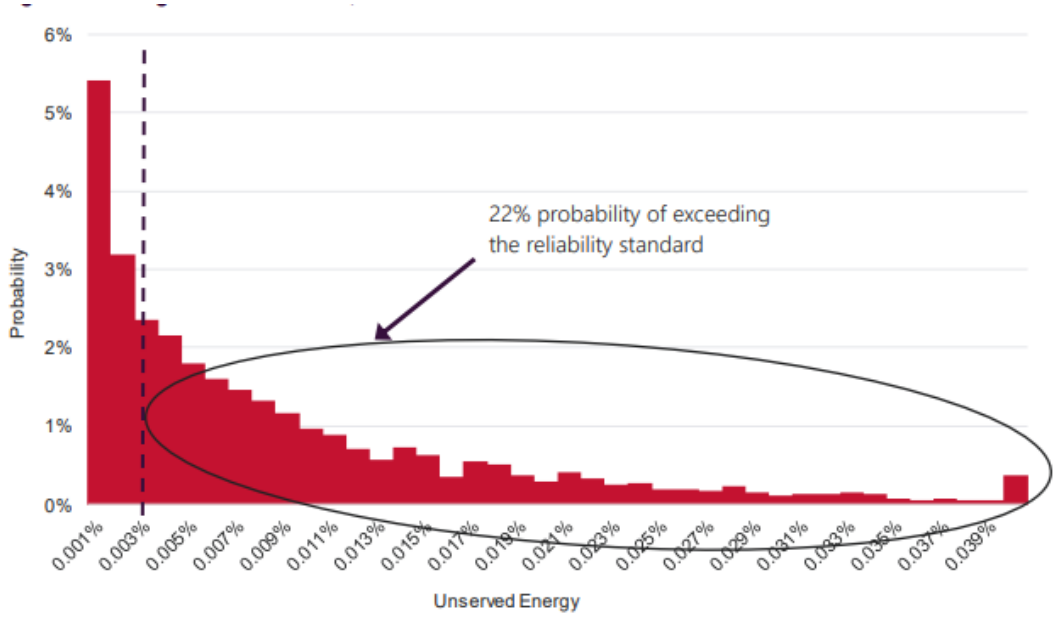
170 AEMO, 2019 EAAP, Appendix, covers new generation developments deemed by AEMO to meet committed or Com* criteria in terms of their status of project development.

171 AEMO, 2019 ESOO, p. 118.

172 AEMO, Summer 2019-20 Readiness Plan, December 2019, page 16.

AEMO's 2019 ESOO discusses how Victoria's USE probability distribution for 2019-2020 is more positively skewed and 'fat tailed' than USE probability distributions for the other NEM regions. For example, AEMO estimates there is a 22 per cent probability that the reliability standard would be exceeded in Victoria during 2019-2020 (See Figure 3.2). [173] AEMO's 2019 ESOO also estimated the probability of the reliability standard being exceeded (the 'tail risk') to be higher in Victoria than the corresponding probabilities for South Australia and NSW, for the 2020-2021 to 2022-2023 period (see Figure 3.1). After 2022-2023, AEMO's 2019 ESOO projects 'tail risk' to be the highest for NSW (following the exit of the Liddell generator), and lowest for Victoria (due to the entry of renewable generation induced by the VRET). The Commission notes that these "tail risks" that may result in multiple days of widespread load shedding in Victoria are a concern for the Victorian electricity market, as suggested in the Victorian Government derogation.

Figure 4.5: Range of USE outcomes, central scenario, Victoria 2019-20



Source: AEMO, 2019 ESOO, page 73.

Duration of the reliability challenges

In addition to having regard the likelihood of reliability pressures arising in Victoria, the Commission has considered the duration of such events. Over the short to medium term, the current suite of risks to reliability in Victoria may change. As well as market forces driving a change, as noted by a number of stakeholders the RRO is a key mechanism, focussed on the short to medium term, that if triggered can facilitate an in-market response.

If the RRO is triggered, then it will require retailers to enter into sufficient contracts to meet their share of expected system peak demand. Retailers can choose to contract with any form

173 AEMO, 2019 ESOO, page 73.

of generation, for example, solar, hydro, gas, coal and batteries. However, the 'firmer' the contracted generation source is, the greater its contribution will be to meeting their obligation. This will provide an incentive for market participants to increase contacts with existing participants or to invest in the right technologies in regions where it is needed, to support reliability in the NEM.

As discussed in section 2.2.4 of this draft rule determination, the RRO can only be triggered three years out of a forecast shortfall. Should the circumstances facing Victoria in the coming few years deteriorate such that the reliability standard were forecast to be breached, they cannot be addressed under the RRO. The next summer that the RRO can be utilised to address a reliability shortfall in Victoria and any other NEM region is the summer of 2023 - 2024 (based on the ESOO triggering a T-3 event in 2020). The Commission notes that this is after closure of Liddell which is due to occur after the 2022-2023 summer.

4.3.3 AEMO may require flexibility to procure adequate volumes of long notice RERT in Victoria

AEMO has advised the Commission that it has a number of RERT resources available to it in Victoria[174]. However, as this draft determination applies to the period after the 2019-2020 summer, the below analysis covers whether AEMO would be unduly restricted in its ability to manage the reliability challenges in Victoria with long notice RERT contracts restricted to 12 months' duration.

Procuring adequate volumes of long notice RERT

One argument for multi-year contracting is that it would assist in AEMO holding sufficient volumes of long notice RERT to cover any forecast shortfall.

While AEMO has procured long-notice RERT for Victoria for 2018-2019, the Commission notes that if AEMO were to need similar volumes in future summer peaks, the 64 MW of AEMO/ARENA demand side participation trial — approximately 50 per cent of the long notice RERT for 2019-2020 — may not necessarily be available beyond November 2020, since this is when the trial concludes.

Under the $35.7 million trial, energy users or their service providers (for example, aggregators and energy retailers) received a grant from ARENA as an incentive, or availability payment, to provide standby demand response capacity to be used as emergency reserves through the RERT. Recipients of ARENA funding through the trial are short-notice RERT panel members and so are paid a usage payment by AEMO through the RERT should they be dispatched. They must all also offer contracts each time AEMO issues an expression of interest. Usage payments through the trial are capped at $1,000/MWh.[175] Demand response from this trial is providing 64 MW of long notice RERT for Victoria for the coming summer, and last summer it provided a similar volume. While trial participants may decide to bid in to

174 AEMO, Summer 2019-20 Readiness Plan, 4 December 2019, p. 14

175 ARENA-AEMO joint submission to Reliability Frameworks Review - directions paper, p. 6. About $28.55 million was provided by ARENA and a further $7.18 million was provided by the NSW Government to develop additional demand response capacity in that state, for a total funding of $35.7 million.

supply long notice RERT in future years, without ongoing subsidies this can not be guaranteed.

The Commission also notes that having effective emergency reserves means having the right mix of RERT types, covering the required lead times, times of availability and duration of supply. The Commission considers that from a market operator point of view, shorter lead times may also be an important consideration when arranging a portfolio of RERT suppliers, since it provides more flexibility in terms of managing the system on the day.

The question of the impacts of multi year contracts on direct costs are addressed in the next chapter. Nonetheless, under the RERT framework AEMO must consider the costs impacts of the RERT it procures. From 26 March 2020, under the changes introduced under the Enhancement to the RERT rule AEMO must also have regard to a principle that the cost of the RERT is not to be greater than the VCR in a particular region, when entering into RERT contracts.

Given this, if long-notice RERT bids for a contract duration of one year are offered in at too high a cost, AEMO may determine not to enter into contracts.

Other reliability framework mechanisms

Long notice RERT contracts are only one of a range of intervention mechanisms in the reliability framework that are all designed to work together. Providing information to the wholesale market is an important aspect of the framework as it enables the wholesale market to respond to forecast shortfalls. While the Commission notes stakeholders have suggested providing more detailed information to the market would further promote its ability to respond, this may not be sufficient.

The short and medium notice RERT providers are on a panel. This means that AEMO can enter into contracts with these parties when a shortfall becomes apparent at medium notice (that is, at ten weeks or less). While providers on the short and medium notice RERT panels are not obligated to enter into contracts with AEMO, AEMO is also not restricted in the numbers of providers they can place on a RERT panel. Hence, short and medium notice RERT is a useful tool for dealing with the tail risks that AEMO is concerned about. However, as short and medium notice RERT panel providers are not obligated to supply when required, AEMO may also seek to have long -notice RERT contracted to make sure that it has adequate levels of emergency reserves.

Some stakeholders pointed to the potential use of directions as a means of addressing reliability pressures. The use of directions, however is rarely used to address reliability issues -- they are primarily used to address system security issues. This is because there are already incentives in the wholesale market for in-market generators to respond where demand is high, that is high spot prices. When a generator is directed to provide energy or Frequency Control Ancillary Services (FCAS), they are compensated based on the 90th percentile price. However, in the situation where there is tight supply and demand balance, the spot price will generally be much higher than this. This means that participants already have strong

incentives to be on line and so there is unlikely to be any participants available to direct to provide energy during such scenarios.[176]

The Commission also notes that the ESB was recently tasked by the COAG Energy Council to provide advice for decision in March 2020 on immediate measures to ensure reliability and security of the electricity system. The AEMC is working closely with the ESB and other market bodies on this work. This is discussed in section 2.3.

The role of the reliability standard in multi-year contracting

The Commission considers that the trigger for procuring emergency reserves should apply to the first year before AEMO were to enter into a multi-year contract. Under the current framework, this is an expected breach of the reliability standard. This should therefore occur before any emergency reserves - under single year or multi-year contracts - are entered into.

However, the trigger would not be required to be met in years two and three. Instead, under the draft rule, AEMO would need to consider what the appropriate term of a Victorian reserve contract would be. This is discussed in more detail in chapter 5 on direct costs.

The Commission also considers that the amount of RERT procured in the first year of a multi-year contract should be relative to the gap to the reliability standard. This mirrors the incoming changes under the Enhancement to the RERT rule change. For years two and three of the contract, the volume would be based on what AEMO considers is reasonably necessary to ensure the reliability of supply in the Victorian region.

In relation to AEMO's view that it would be restricted if multi-year contracting were linked to breaches of the reliability standard, the Commission considers that the proposed approach balances the need to:

- reduce the risk that RERT is procured and not used, with costs borne on customer bills; and the
- need to provide AEMO with flexibility to undertake multi-year contracting, where this would be more cost effective.

4.4 Conclusions

The Commission notes that there are challenging reliability pressures in Victoria that will extend beyond the 2019-2020 summer peak and until the RRO is operational and can address reliability issues in the 2023-2024 summer peak. These were recognised in both the derogation proposal and stakeholder submissions to the consultation paper. The Victorian Government's concern about the reliability risks in Victoria is understandable, especially considering that the consequences of generator outages during peak demand periods can include widespread involuntary load shedding over multiple days.

The Commission considers that while out-of market responses to reliability challenges are not ideal, they are necessary as a last resort should the market fail to respond. For these coming

176 Reliability directions have only been used twice since 2010. During those two events, intervention pricing was used for a total of 4 hours and 5 minutes. In both cases, Pelican Point was directed in response to a tight supply demand balance. See: AEMC, Investigation into intervention mechanisms in the NEM, Final report, p. 52, 15 August 2019.

few years, if there continues to be a lack of investment in dispatchable generation in Victoria, then this could lead to a lack of in market reserves. Multi year contracting would provide more flexibility for AEMO to procure emergency reserves in order to minimise the likelihood of involuntary load shedding.

The potential for multi-year contracting to provide cost-effective long-notice RERT is the subject of the next chapter.

5 IMPLICATIONS OF MULTI-YEAR CONTRACTING FOR DIRECT COSTS

In the consultation paper, the Commission noted that the introduction of multi-year contracting for a fixed term in Victoria could impact the costs of long notice RERT, costs which are borne by consumers.

RERT costs could increase if emergency reserves were incurred unnecessarily. Alternatively, multi-year contracting could reduce the direct costs of procuring RERT. The Commission asked stakeholders for their views.

The direct costs of the RERT are passed on to market customers (retailers) in the region where the RERT was used, and ultimately recovered from consumers. This means that the use of emergency reserves has an impact on prices that consumers pay.

This chapter outlines:

- the Victorian Government's views about the implications of multi-year contracting for direct costs
- stakeholder views
- the Commission's analysis and conclusions.

5.1 The Victorian Government's views

The Victorian Government considers that the availability of multi-year contracting could enable AEMO to procure emergency reserves at a lower cost. It suggests that cheaper long notice RERT contracts can be expected under multi-year contracting as RERT providers had advised the Victorian Government that "longer term contracts have significantly lower costs for each MW of available capacity compared to short term contracts".[177] The Government specified that: [178]

> [b]ased on preliminary discussions with potential RERT supply side providers, the Department of Environment, Land, Water and Planning (DELP) is aware that several parties have stated that they are unable to offer in resources below the value of customer reliability within the constraints of a one-year RERT contract. However, these same parties have indicated that they are able to provide substantial new energy generation resources at significantly lower annual cost if multi-year contracts were available.

The derogation proposal suggests that AEMO would not be obliged to enter into multi-year contracts. Rather, AEMO would be empowered to use its discretion within the parameters set out in the NER and the RERT Guidelines to "achieve the best outcomes for consumers, balancing reliability and costs".[179] As a result, the Victorian Government expects that AEMO

177 Rule change request, p. 10.
178 Ibid, p. 6.
179 Ibid, p. 10

would only enter into multi-year contracts for long notice RERT where it is more cost effective than entering into nine or 12 month contracts.[180]

The Victorian Government argued that multi-year contracting can increase the volume of reserves offered to AEMO, particularly by growing the 'pool' of small-scale generation offering into the RERT. It stated that these reserves become more readily available under a multi-year contract as the longer contract term provides reserve providers greater certainty to be able to recoup their investment within the term of the contract.[181] The Government also claimed the proposal would facilitate the development of demand response options, which over-time may become available to the wholesale energy market and thereby reduce the cost of electricity to consumers.[182]

The derogation proposal comments that, although procuring RERT contracts has associated costs, the acquisition of insufficient RERT could also be costly to consumers if it results in involuntary load shedding.[183]

5.2 Stakeholder views

Stakeholders expressed differing views about the impact of the proposed derogation on the direct costs of emergency reserves. Several stakeholders considered it would increase direct RERT costs while others considered that it may deliver cheaper RERT contracts. Some stakeholders suggested other ways to reduce the direct costs to consumers under the proposed derogation.

Reducing direct costs

Some stakeholders considered that multi-year contracting would provide for cheaper emergency reserves on a per MW basis. This was said to be the case because longer term contracts would increase the number of potential RERT providers and reduce the costs of providing emergency reserves.[184]

AEMO considered there would be a "greater likelihood of receiving the lowest cost emergency reserves" under the proposed derogation (compared to nine or 12 month contracts). The potential to contract emergency reserve resources for up to three summers would provide greater investment certainty to potential service providers through increased asset utilisation and reduced revenue risk.[185] Similarly, Enel X said that, as an aggregator of demand response under the RERT mechanism, multi-year contracts would allow them to "spread the costs of developing a portfolio over a longer period". This would allow them to offer RERT at a lower per unit cost.[186]

180 Rule change request, p. 10
181 Rule change request, p. 6.
182 Rule change request, p. 10
183 Rule change request, p. 10
184 Submissions to the consultation paper: Origin, p. 1; AEMO, p. 5; Enel-X, p. 1.
185 AEMO submission to the consultation paper, p. 5.
186 Enel-X submission to the consultation paper, p. 1.

AEMO also stated that the proposed derogation would encourage a more competitive and diverse supply from RERT providers for Victoria. Similarly, Origin, AGL and Enel-X suggested that the proposed derogation could increase the pool of RERT providers to AEMO.[187]

AEMO commented on the cost impact of procuring RERT for multiple years in the event that the reserves are not required for all of those years. It noted that there were trade-offs with "locking in multiple year long notice RERT with shorter dated contracting of reserves, which are informed by updated forecasts of the reserve shortfall,"but said that it was well positioned to make this trade-off in a "considered and transparent manner, in accordance with the RERT principles and guideline." [188] AEMO considered that the proposed rule would provide it the flexibility to procure multiple years of long notice RERT where "this is considered more efficient than procuring individual year-on-year reserve requirements".[189]

Increasing direct costs

Several stakeholders expressed concern that the proposed derogation could lead to increased direct costs of emergency reserves to consumers.[190]

Stakeholders highlighted that the costs associated with emergency reserves were high. The Energy Users Association of Australia (EUAA) noted that the maximum price to consumers of three-year RERT contracts was the value of customer reliability, which can be three to four times the market price cap.[191]

Many stakeholders were concerned that the proposed derogation could lead to consumers paying for the costs of unnecessary emergency reserves. That is, that consumers would bear RERT availability costs for multiple years for shortfalls that do not arise. For instance, AGL acknowledged the potential for multi-year contracting to increase the pool of providers (which could reduce direct costs) but is concerned that "a longer contracting period, of up to three years, is likely to increase the risk of high availability payments for resources that are potentially not needed, and ultimately leads to increased costs to consumers." [192] Both AGL and Origin considered that multi-year contracting could lead to lower costs where there was likelihood of successive years of forecast unserved energy.[193]

The 'unnecessary' procurement of long notice RERT was considered to be a likely outcome by some stakeholders. For example:

- The Australian Energy Council (AEC) considered that " [a] longer-term [RERT] market will also have the side-effect of AEMO contracting to satisfy inaccurate forecasts, given accuracy deteriorates as predictions of conditions become further into the future".[194] On this, the AER suggested that the AEMC examine the risks associated with over-forecasting the RERT requirements and the impact this may have on the costs to consumers.[195]

187 Submissions to the consultation paper: Enel-X, p. 2; AGL, p. 2.
188 AEMO submission to the consultation paper, p. 5.
189 AEMO submission to the consultation paper, p. 5.
190 Submissions to the consultation paper: Mondo, pp. 2-3; AEC, p. 2; EUAA, pp. 5-6; Engine, p. 2; AGL, p. 2.
191 EUAA submission to the consultation paper, p. 9.
192 AGL submission to the consultation paper, p. 2.
193 Submissions to the consultation paper: AGL, p. 2; Origin, p. 1.
194 AEC submission to the consultation paper, p. 2.

- The EUAA and ERM Power considered that AEMO takes an overly conservative approach to forecasting the supply-demand balance which may lead to increased costs on consumers.[196]
- ENGIE considered that given the current supply adequacy forecasts, if "AEMO did contract some RERT capacity on a three year contract, it would be paying three years' availability fees for one year's use".[197]
- Some stakeholders stated that AEMO and the Victorian Government have an incentive to procure more emergency reserves than necessary. ERM Power stated that this was because the "risks associated with not having enough reliability are borne by both consumers and the system operator" whereas the costs of procuring more reserves than needed are borne by consumers alone".[198]

It was also suggested the proposed derogation would be used to reduce the likelihood of outages beyond the reliability standard. ERM Power suggested that proposal seeks to effectively establish a standing strategic reserve to reduce the potential for involuntary load shedding to zero.[199]

Mitigating the risks of direct costs increasing

The AER suggested that in evaluating the derogation proposal, the AEMC should consider the evidence of the potential for cost savings associated with procuring a three-year contract and whether there may be an impact on the cost of electricity provision in other regions of the NEM.[200] Similarly, Minister Lynham, Minister for Natural Resources, Mines and Energy (Queensland) raised concerns about the potential for the proposed derogation to lead to cost impacts for consumers outside of Victoria. He suggested that any final rule include explicit requirements to ensure the associated costs cannot be passed through to consumers outside the derogating state. In addition, the Queensland Government suggested that any final rule should ensure that the surrounding frameworks provide the ability for the AER to monitor and ensure compliance with this requirement.[201]

The AER also said that if the derogation proposal was to be progressed, it would support consideration of measures that would ensure multi-year tender process and its outcomes are transparent to the market in order to achieve optimal pricing outcomes and value for money for consumers.[202]

Mondo suggested that in order to increase the efficiency of multi-year RERT contracts, the contracts struck in December could be shortened to fall away after the subsequent two three summer periods. For example, contracts struck in December 2019 could be designed to fall

195 AER submission to the consultation paper, p. 2.
196 Submissions to the consultation paper: EUAA, p. 5. ; ERM Power, p. 4.
197 ENGIE submission to the consultation paper, p. 2.
198 Submissions to the consultation paper, for example, ERM Power, p. 3.
199 ERM power submission to the consultation paper, p.2.
200 AER submission to the consultation paper, p. 2.
201 Minister Lynham, Minister for Natural Resources, Mines and Energy Queensland submission to the consultation paper, p.1.
202 AER submission to the consultation paper, p. 2.

away in April 2022 instead of in December 2022 as would be the case under three year contracts.[203]

5.3 Analysis

The Commission considers that in certain circumstances multi-year contracting could reduce the direct costs of RERT which could help AEMO to more cost-effectively contract the volume required to address reliability shortfalls.

What are the long notice RERT direct costs and how are they passed onto customers?

In relation to long-notice RERT contracts, "direct costs" is a term that embodies the following costs:

- availability charge: this is expressed in $/MW. In the case of supply-side RERT, availability charges reflect the capital costs of installing generation; in the case of demand-side RERT, availability charges reflect the costs of equipping consumers to become enabled to provide demand response
- activation charges: this is expressed in $/MWh. In the case of generation plant, activation costs reflect the costs of running the plant. In the case of demand response activation charges compensate the customer for any lost production that may have occurred.[204]

The availability costs are incurred irrespective of whether the RERT contract is dispatched, whereas the activation costs are incurred only when the resource is dispatched.

As discussed in section 2.1.6, these costs are passed onto customers in the region where the emergency reserves have been procured. Under the arrangements that will be in place from 26 March 2020:[205]

- Costs associated with the direct and immediate activation of RERT resources are recovered in proportion to market customers' consumption over each of the trading intervals in which the RERT resource is activated, in the region in which RERT was used.
- All other costs associated with the procurement of reserves (other than administrative and operational costs), including availability payments, are recovered in proportion to market customers' consumption during each of the billing periods in which the costs were incurred in the region in which RERT was used.

These arrangements are consistent with a cost reflective pricing objective in order to provide efficient incentives for those parties to minimise and avoid the costs. Costs not able to be allocated in a cost reflective manner are recovered by smearing the costs widely.

RERT direct costs could be lower under multi-year contracts

The Commission considers that spreading upfront costs over three years under a multi-year contract could result in lower direct costs than under one-year contracts. Potential RERT

203 Mondo submission to the consultation paper, p. 3.

204 Some RERT resources may also have 'pre-activation' costs, which relate to start-up costs, which are also expressed in $/MW or a fixed dollar amount.

205 The NER does not prescribe how market customers then recover these costs from end customers.

providers have commented that multi-year contracting under the proposed derogation would allow them to spread their one-off fixed costs over a longer period which means they will be able to offer RERT at a lower per unit cost.[206]

In addition, AEMO have provided the AEMC with confidential information on the unsuccessful offers to the long-notice RERT this year. This data suggests that if multi-year contracts were allowed, then the direct costs of these suppliers per year would be lower. This would have provided AEMO with more options on what long-notice RERT contracts to enter into.

However, care needs to be taken in comparing contracts where they have different cost structures. To compare a contract with high availability charges but low activation charges to a contract with lower availability charges but high activation charges, a comparison on an "expected-value" basis should be undertaken, This allows for the probability of dispatching under each contract.

Similarly, an expected value approach should also be used to appropriately compare the relative direct costs of single-year and multi-year contracts. This would account for the probability of procuring each contract over its contract life. For example, consider two contracts, A and B, where A is a one-year contract and B is a three-year contract. Procuring B requires paying availability charges over 3 years, whereas procuring A requires paying availability charges over one year. A like-for-like comparison of the cost of A and the cost of B requires considering the probability that A would need to be procured again in year two and then again in year three.

When comparing multi with single-year contracts, differences in availability costs are likely to be more relevant than differences in activation costs.[207] Spreading the availability charges over a longer period under a multi-year contract could mean that they would be lower on a per year basis than under a one-year contract.

However, if emergency reserves are not needed in years two and three of a multi-year contract then the above comparison approach is not useful and the multi-year contract may not be more cost effective.

Therefore, the Commission considers that multi-year contracting could provide for cheaper contracts for emergency reserves on a per unit basis (defined as $/MW/year) through lower availability charges per year, but only if there is a reasonable likelihood of the need for procuring RERT contracts beyond year one.

As the Commission noted in Chapter 4, emergency reserves may be needed in Victoria over the coming years to address potential supply shortfalls. It is also noted that there has been an increasing trend in the use of RERT in Victoria. Prior to 2017, RERT had never been dispatched, but since then RERT has been activated three time over past two summer peak periods.

Acquiring emergency reserves under a multi-year contract can lead to lower direct costs for consumers if the reserves may be needed for other contracted years. There is a likelihood

206 Enel- X submission to the consultation paper, p. 1.

207 This said, it is possible that fuel costs may be inversely related to contract duration.

that the RERT may be needed for the coming few years in Victoria. Therefore, the Commission is of the view that multi-year contracting could be a useful tool for AEMO to have at its disposal for a limited time to procure the volumes of RERT it needs to minimise load-shedding at a minimal cost to Victorian consumers. The Commission also considers that greater flexibility for AEMO should be accompanied by checks and balances to mitigate the risks of multi-year contracting imposing unnecessarily high costs on consumers.

Existing restrictions that minimise the risk of entering into inefficient multi-year contracting

The Commission notes stakeholder concerns that allowing multi-year contracts could lead to increased directs costs to consumers through:

- the consumers having to pay for the costs of unnecessary emergency reserves (payment of availability charges over the multi-year period for shortfalls that don't arise)
- inefficient procurement of RERT, due to over-procurement or procurement of more expensive RERT options.

The Commission considers that the principles currently governing the RERT should also apply to multi-year contracts in Victoria. This approach would require AEMO to give consideration to the RERT principle of minimising impacts on customer bills when entering into multi-year contracts.[208] Specifically, AEMO would have to take into account how likely it is that single-year contracts would need to be entered into again, in years two and three.

Furthermore, the Commission considers that the key new measures introduced under the Enhancement to the RERT rule, which will come into effect on 26 March 2020, should also apply to multi-year contracts. The following measures, introduced under the Enhancement to the RERT rule, all aim to reduce direct costs of the RERT and reduce the likelihood of inefficient and unnecessary procurement of RERT, including under multi-year contracting:

- **An additional RERT principle**: costs of RERT procured should not exceed the estimated VCR for the relevant region. This limits the exposure of consumers to emergency reserve costs.
- **Procurement trigger linked to reliability standard**: AEMO can only procure emergency reserves when it identifies and declares an LRC (identified through the medium-term PASA) or LOR (identified through ST-PASA and pre-dispatch). It provides for greater efficiency as reserves can only be procured when AEMO identifies an expected breach of the reliability standard. This tighter trigger would apply to AEMO's ability to enter into a multi-year contract; an LRC declaration would need to apply in the first year of the contract period. [209]

The draft rule also requires that the volume of emergency reserve to be procured under a multi-year contract:

208 Clause 3.20.2(b) of the NER.

209 AEMC, Enhancement to the RERT, final determination, pp. 104-105.

- for the first year of the contract, should be no more than AEMO considers is reasonably necessary to address the relevant low reserve condition (LRC). This reflects the requirements under the Enhancement to the RERT rule change.
- for the second and third year of the contract, should be no more than AEMO considers is reasonably necessary to ensure reliability of supply in the Victorian region.

This should allow AEMO to procure the amount of reserves that are necessary to ensure the reliability standard is met in Victoria while clarifying that only the amount that is necessary should be procured.

Using the measures put in place under the enhancement to the RERT rule reflects the view put forward by AEMO in its submission to the consultation paper; that it appreciates there are trade-offs associated with locking in multiple year long-notice RERT contracts compared to shorter duration reserve contracts, as shorter duration contracts are informed by updated forecasts of the reserve shortfall. AEMO considers that it is well positioned to make this economic trade-off in a considered and transparent manner, in accordance with the RERT principles and guideline.[210] The Commission considered this approach is appropriate and notes that it would expect AEMO to use these principles to guide its decision in terms of entering into multi-year contracts.

Additional requirements to minimise the risk of entering into inefficient multi-year contracting

The Commission has determined that additional obligations should be placed on AEMO, specific to multi-year contracts, to minimise the risk of entering into inefficient multi-year contracts.

The draft rule requires AEMO to ensure that the term of a multi-year Victorian contract (including any extension or renewal of such term) is no longer than:

- AEMO considers is reasonably necessary to ensure reliability of supply in the Victorian region, and
- in any event, three years.

This still affords AEMO discretion as to the length of the contract required. But it does make clear that, where reserves are expected to be required for a period less than three years, then the contract term should be for that lesser period. This would not be built into the contract itself, but would provide guidance to AEMO on how long contracts should be when they enter into contracts.

Greater transparency

The new reporting requirements introduced under the Enhancement to the RERT rule have increased transparency in order to improve market confidence in the RERT process and place an increased level of accountability on AEMO's decision-making.[211] These obligations require AEMO to publish details regarding reserves contracts including:

210 AEMO, submission to consultation paper, p. 1.

211 AEMC, Enhancement to the RERT, p. 216.

- estimated average amount payable under reserve contracts for each region broken down by payment type
- AEMO's modelling, forecasts and analysis used to determine whether to enter into reserve contracts
- the term of the reserve contract – including the justification for that term
- if relevant, an explanation for why AEMO procured a greater amount than any shortfall identified
- how AEMO has given regard to the RERT principle that RERT costs should not exceed VCR, and if relevant an explanation for why the RERT costs exceeded VCR
- for each reserve contract, the payments under that contract (including both procurement and activation payments).[212]

The Commission considers that a commensurate level of disclosure and transparency should apply to multi-year contracts and AEMO's reasoning for entering into multi-year contracts relative to single year contracts. The Commission considers the costs of this would be outweighed by the transparency benefits.

Consistent with the suggestion from the AER, the Commission is introducing a similar transparency approach to the procurement of multi-year emergency reserve contracts. The Commission proposes the following additional reporting requirements in the quarterly RERT report, which would relate only to any multi-year RERT contracts entered into in Victoria:

- identify any reserve contracts that have a term greater than 12 months
- include an explanation of why AEMO considered the term to be reasonably necessary to ensure the reliability of supply in the Victorian region
- include an explanation of why AEMO considered the amount of reserve procured to be, for the first year of the term, reasonably necessary to address the relevant low reserve condition, and for the remainder of the term, reasonably necessary to ensure reliability of supply in the Victorian region.
- outline the basis on which *AEMO* had regard to the *RERT principles* when entering into the multi year contracts.

The requirement on AEMO to publish this information for multi-year contracts would place an increased level of accountability on AEMO's decision-making to enter into multi-year reserves contracts. This would increase the likelihood that multi-year contracts will only be entered into when there is a reasonable likelihood that they will result in lower costs for consumers.

The risk of spreading RERT costs to customers outside of Victoria

Finally, the Commission also notes the concern that RERT costs incurred in Victoria under multi-year contracting could spread to customers in other regions. The Commission notes that theoretically it may be possible for a retailer operating across multiple regions to spread the costs of the RERT that were procured and used in one region to customers in the other region.

212 Once the final statement for reserve settlement has been provided. National Electricity Amendment (Enhancement to the Reliability and Emergency Reserve Trader) Rule 2019 No. 3, Cl 3.20.3(f).

However, the Commission considers this situation to be unlikely to occur in practice since:

- Under the NER, RERT costs are recovered by fees imposed on market customers in the region where emergency reserves have been procured and/or dispatched.
- The cost per market customer is proportional to the energy consumption of that customer in the relevant region during certain time periods. Therefore, most RERT costs fall on higher energy using consumers.
- The NER do not prescribe how market customers then recover these costs from end users. The Commission understands that commercial and industrial customers have direct cost pass through provisions for RERT in their contracts. This therefore minimises the share of costs that would have to be recovered from other customers.
- For residential customers, the Victorian Default Offer determination explicitly states a cost per customer for RERT- which is $3.24 per customer for the 2020 calendar year based on RERT costs from the previous year. This is a good example and potentially sets a benchmark for cost reflective tariffs. Given that this is included in the VDO, then this again minimises the share of costs that would need to be recovered from other customers.

Therefore, given there is typically explicit recognition of RERT costs for commercial and industrial customers, as well as residential customers, in Victoria, the potential for RERT not to be recovered from Victorian consumers (and so recovered from consumers in other states) is very low. It is also worth noting that the competitive forces in the retail market would reduce the extent to which any minimal RERT costs are passed onto customers in other regions. For example, if Victorian retailers face a cost for RERT, but a Queensland retailer doesn't, it would be hard for that Victorian retailer to recover it from Queensland customers since the increased cost would diminish its competitiveness in that state.

The Commission has also considered the suggestion that the AER be required to monitor and ensure compliance in relation to preventing RERT costs from being recovered from customers outside of Victoria. Regulatory provisions to prevent retailers from recovering RERT costs from customers in other jurisdiction are likely to be costly to enforce effectively. As the risk of RERT costs being recovered from customers outside of Victoria is low, the costs of such a compliance regime would be likely to outweigh the benefits.

5.4 Conclusion

To summarise, the Commission considers that allowing for multi-year contracting in Victoria to address reliability shortfalls for a limited time in circumstances when AEMO considers it will lead to lower costs of emergency reserves is appropriate.

The draft rule also includes measures that build on the changes to the framework introduced under the Enhancement of the RERT rule to reduce RERT costs by reducing the risk of unnecessary and inefficient procurement of RERT.

The Commission also considers that expanded reporting requirements will improve AEMO's accountability in exercising the multi-year RERT contracts efficiently. This should address

stakeholder concerns that AEMO would be free to enter into multi-year contracting in circumstances where it was not cost effective to do so.

6 INDIRECT COSTS

In the consultation paper, stakeholders were invited to express their views on the indirect costs that may arise as a result of the request to implement multi-year RERT contracting in Victoria up until 30 June 2025. Strategic reserves, like the RERT, can have the potential to distort the operational and investment incentives of wholesale market participants, creating indirect costs. For example, market participants may consider that they would get a higher payment from participating in a strategic reserve than they would in the wholesale market, and so withdraw capacity that is currently available in the market to participate in RERT. This outcome would likely lead to an increase in wholesale prices and additional costs for emergency reserves and create reliability concerns due to a lack of supply of reserves within the market.

This chapter outlines:

- the Victorian Government's views about the distortionary impact of multi-year contracting of long-notice RERT on the market
- stakeholder views
- The Commission's analysis and conclusions

6.1 Victorian Government's views

The Victorian Government does not consider that longer RERT contract duration would lead to indirect costs for the wholesale market. The Victorian Government has stated that "the derogation will not adversely impact investment in the NEM, given its limited scale and duration (to 2025)".[213] Additionally, "the derogation does not propose adjustment to the reliability standard or reliability settings which underpin long-term investment incentives".[214]

6.2 Stakeholder views

Stakeholders expressed divergent views on whether multi-year contracts could impose indirect costs on consumers.

Views that consider the proposed derogation would have a distortionary impact on the market

Several stakeholders considered that emergency reserves under multi-year contracts would distort the market. They stated that a three year RERT would be seen as a long-term, lower risk alternative to participating in the market. Hence, it would result in a less secure wholesale market, discourage investment, worsen reliability and increase costs – not just of the RERT but also of wholesale electricity prices.[215] For example, ERM Power stated that the[216]:

213 Rule change request, p.8

214 Rule change request, p.8

215 Submissions to consultation paper: AEC, p. 2; Snowy Hydro, p. 1; ENGIE, p. 2; AGL, p. 2, Origin Energy, p. 1; EUAA, p. 9; ERM Power, p. 2.

216 ERM Power submission to the consultation paper, p.2.

> "prospect of receiving availability payments as well as the potential for dispatch payments above the market price cap may prove to be generous enough that some supply which would otherwise be planning 'on market' investment choosing not to enter the market and instead attempt to negotiate a RERT contract with AEMO for Victoria".

As this capacity will remain "off-market", multi-year contracts would lead to increased wholesale prices and thereby increased costs for consumers.[217]

Snowy Hydro noted that, if generators are denied an opportunity to earn an adequate return on their investment, they would have no choice but to reduce their level of investment. As a consequence, AEMO would need to continually grow its shadow fleet to fill the gap.[218]

Engie, EUAA and ERM Power also stated that the proposed derogation could also have a distortionary impact on the operation of the RRO.[219] Engie considered that multi-year contracting could reduce the ability for retailers to attract in-market capacity (either to meet RRO obligations or simply to manage their own risk) by making RERT contracts even more attractive an option for capacity providers.[220]

Stakeholders reiterated that the primary mechanism for meeting reliability is the market and not the RERT mechanism.[221] Snowy Hydro submitted that the proposal was contrary to the design of the NEM and that a multi-year RERT represented a de-facto capacity market.[222]

The AER suggested the AEMC consider whether the proposed rule change would lead to a deferral of investment or demand side participation, noting that under the proposal once the RERT mechanism is triggered the maximum three-year contract duration would be regardless of the ESOO unserved energy forecasts in subsequent years.[223]

Views that consider the proposed derogation would not have a distortionary impact on the market

Both AEMO and Mondo both submitted that they did not consider it likely that the derogation would lead to market distortions.[224] AEMO "believes that resource providers that participate in the LNRERT are unlikely, for various reasons, to participate as a Market Participant in the NEM".[225] AEMO also noted that it will make decisions on multi-year contracting in a transparent and considered manner "in accordance with the RERT principles and guideline" which include the principle of minimise market distortions.[226]

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217 ERM Power submission to the consultation paper, p.2.
218 Snowy Hydro submission to the consultation paper, p.2.
219 Submissions, to the consultation paper: ERM Power, p. 5; EUAA, p. 9; Engie, p. 2.
220 Engie submission to the consultation of the paper, p.2.
221 Submissions to the consultation paper: EUAA, p. 3, AGL, p.1.
222 Snowy Hydro, submission to consultation paper, p. 1.
223 AER, submission to consultation paper, p. 1.
224 Mondo submission to the consultation paper, p.2.
225 AEMO submission to the consultation paper, p.5.
226 ibid.

Mondo considered that incentives in wholesale market are muted due to several reasons. It stated that:[227]

- Under stable conditions, Mondo broadly supports the operation of the market as the default means for encouraging new generation.
- The ongoing transition to new generation technologies, unpredictability of operational demand growth, and uncertain policy environment is likely to create medium term risks that may mute efficient market-based investment in new supply.

6.3 Analysis

The section sets out the Commission's analysis regarding the potential impact on multi-year contracting on the wholesale market. It discusses:

- from an economic perspective, efficient electricity markets and the risk of distortionary outcomes
- the potential for multi-year contracting in Victoria to distort the real time operation of the wholesale market, and investment in supply and demand response.

6.3.1 Efficient electricity markets and indirect costs

For an economic perspective, efficient electricity markets are characterised by:

- provision of, and investment in, electricity services at lowest possible cost through employing the least-cost combination of inputs
- the ability of the market to readily adapt to changing supply and demand conditions over the long-term.

When making changes to the regulatory framework, the Commission bears in mind that any distortion to efficient market outcomes should be minimised or mitigated. That is, any regulatory changes should not detract from the ability of the wholesale market to provide for the least cost combination of supply-side and demand-side options at any point in time.

In considering whether the proposal set out in the rule change request would create indirect costs, the key aspects are whether allowing multi-year contracting would:

- detract from the efficient provision of, and investment in, electricity services in the wholesale market
- reduce the ability of the market to adapt to changes in supply and demand over the long term.

To the extent that indirect costs would arise, these need to be weighed against the potential benefits to consumers of allowing multi-year contracts under the RERT. Allowing multi year contracts to be entered into under the RERT would be in the long term interests of consumers if the savings with regard to the provision of emergency reserves outweighed the potential for inefficient outcomes in the wholesale market.

227 Mondo, submission to consultation paper, p. 2.

6.3.2 Indirect costs and the Enhancement to the RERT rule change

Indirect costs was an issue that was considered at length in the Enhancement to the RERT rule change process. The final rule for this process introduced a number of provisions targeted at minimising indirect costs, which focused on making sure the wholesale market is the primary means by which reliability is delivered so that reliability is delivered at lowest cost to consumers by:

- requiring that AEMO ensures scheduled emergency reserve providers (scheduled generators or scheduled loads) who have been in the energy market at any time during the 12 months prior to signing a RERT contract do not participate in the RERT
- making sure that AEMO ensures scheduled emergency reserve providers are not participating in the wholesale market for the term of the reserve contract.

For unscheduled emergency reserves (such as demand response that is not scheduled, or non-scheduled generators), the out-of-market provisions remain largely the same as the existing rule. That is, the unscheduled reserves cannot be both in RERT and in the wholesale market, for the trading intervals to which the RERT contract relates. However, the final rule also introduces:

- an obligation on both scheduled and unscheduled RERT providers to comply with the respective out-of-market provisions
- a requirement for AEMO to provide clear guidance on how it intends to implement the out-of-market provisions for unscheduled emergency reserves.

In addition, the final rule:

- introduced a definition for estimated average VCR (in $/MWh) for the purposes of emergency reserves, i.e. the estimated average VCR determined by AEMO, but derived from the VCR values developed by the AER and having regard to the RERT guidelines.
- introduced a new RERT principle that the average amount payable by AEMO under emergency reserve contracts for each MWh of emergency reserves for a region should not exceed the estimated average VCR for that region
- required the RERT guidelines to provide more guidance on how the average VCR would be determined by AEMO
- required AEMO to report on how it will determine the average VCR. The final rule aimed to minimise the direct costs of the RERT, noting that the costs of the RERT are ultimately borne by consumers.

6.3.3 Potential for indirect costs

As highlighted by stakeholders, the buying and selling of electricity through the contract and wholesale markets is the main mechanism through which the desired level of reliability is delivered in the NEM. Market participants make investment and operational decisions based on these market signals. Prices in the spot market provide signals for adequate generation and demand-side resources to be built and dispatched, as well as information about the balance of supply and demand across different places and times. As the expected supply-demand balance tightens, spot prices will rise which will inform operational decisions and

provide an incentive for entry and expansion, addressing any potential reliability problems as or before they arise.

This section considers the potential for indirect costs to arise in the wholesale market in terms of both its operation and investment signals. Specifically, it considers both operational and investment timeframes.

Operational timeframes

The spot price in the wholesale market signals to market participants the value of additional supply. The Commission does not consider it likely that allowing for multi-year RERT contracts to be signed for a limited time would result in distortions to the wholesale market over operational timeframes. This is because:

- Multi-year contracts would not change the way the RERT is operationalised. Regardless of whether long-notice RERT contracts have been signed for 12 months or three years, the impact on the real time operation of the wholesale market should remain unchanged.
- The use of the RERT should not distort the wholesale prices. Through intervention pricing (which applies when the RERT is dispatched), the wholesale price signal should be maintained for all market participants. In effect, the wholesale market should still provide the same operational signal to market participants.

As such, the Commission does not consider that, by extending the contract duration for RERT resources, there would likely be a material distortion to the real-time operation of the wholesale market. To the extent that the dispatch of the RERT has real-time implications for market participants, this would be the case irrespective of contract duration.

Investment time-frames

The Commission notes concerns raised by some stakeholders that the proposed derogation could lead to indirect costs by reducing incentives for market participants to invest in the market or respond to market signals, and thereby provide reliability at minimal cost. Stakeholders stated that the derogation would lead to generators being denied opportunities to capture periods of peak spot prices, leading to investors choosing to invest in out-of-market RERT assets instead of within the Victorian wholesale market.

The following sections examine the extent of potential impacts of the proposed derogation on investment signals. The Commission concludes that while the derogation proposal could impact investment signals, these impacts are likely to be minimised due to several factors as explained below.

Enhancement to the RERT has already limited indirect costs

The changes made under the Enhancement to the RERT final rule should have the effect of minimising indirect costs (discussed above). Participants that were in the market cannot enter into RERT contracts (either single or multi-year contracts), until they have been out of the market for 12 months. In addition, AEMO has to have regard to the costs of emergency reserves, relative to the VCR, when entering into RERT contracts.

In addition, the trigger for entering into emergency reserve contracts under the Enhancement to the RERT rule will apply for multi-year contracts. That is, AEMO cannot enter into a long notice RERT contract unless there is a declaration of a LRC, with the only inputs into that trigger being the USE forecasts in AEMO's MTPASA and/or AEMO's EAAP.

These constraints would still operate in relation to multi-year contracts.[228] Therefore, the Commission considers that concerns about increased indirect costs from the derogation are minimised due to these changes. In addition, the draft rule still preserves the use of the RERT as a last resort during times of market failure, and so is not contrary to the design of the market as suggested by some stakeholders.

The changes made under the Enhancement to the RERT rule should provide clear signals to the wholesale market that the RERT is an out-of-market service that is only to be used after market responses have been exhausted. This means, that the market, through investment in new generation or demand response in market if required, would remain the primary means by which reliability is met in the NEM, and at lowest cost to consumers.

The Commission notes concerns raised by stakeholders that the draft rule would lead to existing in-market demand response providers going out-of-market to participate in RERT and becoming unavailable to retailers. As noted above under the provisions introduced in the Enhancement to the RERT rule unscheduled market reserves (such as demand response) can't participate in the RERT and also be subject to another arrangements for the relevant trading intervals for which the RERT may be required. The rule also introduces an obligation on participants to comply with the out-of-market provisions. Therefore, the Commission considers that these provisions should minimise demand response moving out of the market to provide emergency reserves.

These constraints already limit the incentives for potential providers to partake in the behaviour described above, such as withdrawing capacity from the wholesale market. Importantly, these constraints do not restrict providers from moving from providing emergency reserves into the wholesale market once the RERT contract is completed (or in the case of unscheduled reserves, after the end of the trading intervals to which the contract relates). This is appropriate as reliability is best met through the market first and foremost - the Commission would want to encourage reserve providers to move from the RERT, into the market delivering reliability at a lower cost to consumers.

In some ways multi-year contracting could be considered similar to the aims of the ARENA demand response trial, which was to pay upfront payments to participants to cover the upfront costs of making customers demand response ready. Some investors may choose to invest in the RERT for the life of the contract or derogation (whichever comes first), and then choose to move their assets into the market once a RERT contract or the derogation ends. This is particularly the case since the derogation is time limited (discussed below).

228 Although as noted in Chapter 3, the trigger only needs to be met for the first year.

Time limited derogation

In addition to the above constraints acting, the Commission considers that the indirect costs should be minimised further since the derogation is time limited. The risk of investors choosing to invest in assets to provide RERT instead of investing in the market will be reduced due to the time limited nature of the derogation and the longer term measures that are due to take effect. Investors are unlikely to gain adequate certainty regarding cost recovery. This is especially the case for supply-side resources (such as peaking plant), since RERT contracts under the draft proposal will last up to three years, which may not give adequate certainty on cost-recovery vis-à-vis entering into three-year or longer cap or swap contracts offered within the market.

These effects are strengthened given the RRO. If there is a shortage of in market reserves, then the RRO would likely be triggered. If there is a shortage of in market reserves, then retailers will need to meet their obligations under the RRO and so will be seeking to enter into contracts either with existing participants or new investments. Given there is a shortage of in market reserves compared to what is being demanded, prices for such in-market reserves will increase. This will therefore make offering contracts into the market more attractive, again minimising indirect costs.

Type of generation and providers

Having regard to confidential information provided by AEMO, the Commission considers that the type of resource providers that would become more cost competitive if multi-year contracts were offered under the RERT would be unlikely to participate in the market because they would be largely supply-side. This is consistent with information that the Victorian Government included in its derogation request. It is also supported by AEMO's view in its submission to the consultation paper where it noted that RERT providers that participate in the long-notice RERT are unlikely, for various reasons, to participate as a market participant in the NEM. Therefore, AEMO considers that having the flexibility to procure long-notice RERT over multiple years would not result in indirect costs to the wholesale electricity market.

Diesel generation sets could be expected to provide emergency reserves fairly easily,[229] but that they would not necessarily have the characteristics to operate in the market on an enduring basis. The Commission notes that this is supported by there being a relatively small amount of diesel fuelled scheduled generation in market, with none registered in the Victorian market. This could further minimise indirect costs.

6.3.4 Reasons for previous exclusion of multi-year contracting

In its final determination for the Enhancement to the RERT rule change request, the Commission decided against allowing long term RERT contracts over multiple years. While allowing for emergency reserves to be procured for multiple years could potentially result in cheaper emergency reserves being provided, the Commission considered that the increased costs to consumers would outweigh these potential benefits. This was because:[230]

229 This was partly why these were installed in South Australia following the system black.

230 AEMC, Enhancement to the RERT, May 2019, pp. x-xi.

- consumers would pay for emergency reserves every year regardless of whether or not the emergency reserves are required – thereby increasing electricity costs.
- it would likely disincentivise investment in the market which would lead to higher wholesale market prices, further increasing costs to consumers.

However, in the final determination, the Commission recognised that some jurisdictions consider there needs to be interim measures in place in order for them to have higher levels of emergency reserves to assist in managing the system as the transition takes place.[231]

While the Commission decided against multi-year contracting for the Enhancement to the RERT rule, the issue considered at that time was different from what is proposed by the Victorian Government. Under the Enhancement to the RERT rule change process, the Commission considered the proposition of introducing multi-year contracting for emergency reserves as a permanent feature of the NEM reliability framework. This derogation proposal seeks a time limited derogation applicable to one jurisdiction in the NEM. It also includes principles to guide AEMO when entering into multi-year contracts.

6.4 Conclusion

The Commission has assessed the potential for multi-year contracting in Victoria, as proposed to distort the wholesale electricity market. The impacts have been examined from the perspective of both operational and investment timeframes.

The Commission has concluded that the potential for indirect costs arise from the draft rule are likely to be minimised due to: the changes made in the Enhancement to the RERT final rule; as the fact that this derogation is time limited; and the Commission's view that the type of resource providers that may become more cost competitive would be unlikely to participate in the wholesale market as they would be largely supply-side.

The draft rule therefore creates a specific definition of multi-year Victorian contract, meaning a reserve contract for the provision of reserves for the Victorian region, with a term commencing on or after 12 April 2020 and exceeding a period of 12 months. It then specifies that the term of a Victorian reserve contract must be bounded by three years after the commencement of the term of the contract. This is discussed further in Chapter 7.

231 ibid.

7 DURATION OF THE DEROGATION

In the consultation paper, the Commission noted that the Victorian Government derogation proposal requests that AEMO have the ability to procure multi-year RERT contracts in Victoria for approximately five years, until 30 June 2025. This would mean in effect that multi-year contracts entered into in 2025 could be in place through to June 2028. The Commission sought stakeholder views on the proposed expiration date for the derogation of 30 June 2025. This chapter outlines:

- the Victorian Government's views about the length of the derogation
- stakeholder views
- The Commission's analysis and conclusions

7.1 The Victorian Government's view

As outlined in Chapter 3, the Victorian Government suggested that the state could face reliability problems in the short to medium term. The upcoming closure of Liddell power station in 2022-2023 is said to represent "the next significant danger period for the Victorian supply reliability beyond the current forecast of shortfall and the coming online of new generation."[232]

The Victorian Government anticipated that supply reliability will be resolved over the longer term by other measures including:

- on market investment in generation and transmission augmentation
- the Retailer Reliability Obligation; and
- the Energy Security Board's post 2025 Market Design for the NEM.[233]

The rule change request considered that the new measures contained in the Enhancement to the RERT would not be able to meet the immediate short-term reliability challenges in Victoria.[234] Similarly, it considered that the market measures incorporated into the RRO, which came into effect on 1 July 2019, cannot assist in resolving the shortages forecast for the coming summer peak period in Victoria as the RRO is a long-term solution to forecast capacity shortages.[235]

The Victorian Government therefore stated that "this derogation is a short-term measure designed to address a short-term reliability problem — consequently, it will expire after five years".[236]

232 Victorian derogation proposal, pp.4-5.
233 ibid, p.8.
234 Ibid, pp.4-5. The key changes in the Enhancement to the RERT final rule come into effect from March 2020 (after 2019-20 peak summer period).
235 ibid, p.5.
236 Ibid, p.4.

7.2 Stakeholder views

In general, stakeholders considered that the duration of the derogation should reflect the length of time that Victoria will experience reliability issues.

As noted in Chapter 3, while several stakeholders expressed concern about the introduction of multi year contracting in Victoria if it were to be permanent, some considered it acceptable as a short term measure in order to help address the reliability issues in the state. Others, such as EUAA and ERM Power noted that as proposed it is not a "short term derogation" as it would remain operational several years after closure of Liddell and the commencement of the RRO.

Several stakeholders noted that the RRO is available to address the reliability issues, and so the duration of the derogation should be reduced to take this into account.[237] The AEC commented that if the 2020 ESOO triggers the RRO then it will be able to address reliability issues from the 2023-2024 summer. Therefore the derogation should end in June 2023 (running for three years rather than five).[238]

AGL and ERM Power noted that the proposed commencement of the Demand Response mechanism in June 2022 will also help to address reliability issues.[239]

Other options suggested by stakeholders for the derogation duration included:

- A derogation sunset period ending on 26 March 2020.[240]
- Ending the derogation on 30 June 2023, and allowing three-year contracts to be signed up until 30 June 2022 and after that allowing two-year contracts to be signed up until 30 June 2023 – enabling contracts to be in place until 30 June 2025.[241]
- Ending the derogation on 30 June 2023, enabling contracts to be in place until 30 June 2026.[242]
- A mid-point review to assess where the AEMC could assess data and determine whether the derogation should continue.[243]

7.3 Analysis

Given the reliability challenges facing Victoria, the Commission proposes that AEMO should have the flexibility to enter into multi-year RERT contracts up until such time the RRO could next address reliability issues in Victoria, which is the 2023-24 summer peak.

As examined in chapter 4, the Commission agrees that Victoria is facing a unique set of challenging reliability challenges in the short-medium term. As discussed in section 2.2.4, the RRO can only be triggered three years out of a forecast shortfall. As noted by some

237 Submissions to the consultation paper: AEC, p. 4; ERM Power, p. 4; AGL, p. 2; AER, p. 2; Engie, p. 2.
238 AEC submission to the consultation paper, 20 November 2019, p. 4.
239 Submissions to the consultation paper: AGL, p. 2; ERM Power, p. 4.
240 Engie submission to the consultation paper, 21 November 2019, p. 3.
241 ERM Power submission to the consultation paper, 21 November 2019, p. 3.
242 AEC submission to the consultation paper, 20 November 2019, p. 4.
243 Mondo submission to the consultation paper, 26 November 2019, p.3.

stakeholders, the 2019 ESOO did not forecast a breach of the standard after 2019-20. Thus, should circumstances in Victoria change or deteriorate such that the reliability standard in that state is forecast to be breached in the 2020-21 or 2022-23 summers, the RRO will not be able to address these shortfalls as it can only now be triggered for the 2023-24 summer peak period and beyond, based on AEMO's 2020 ESOO.

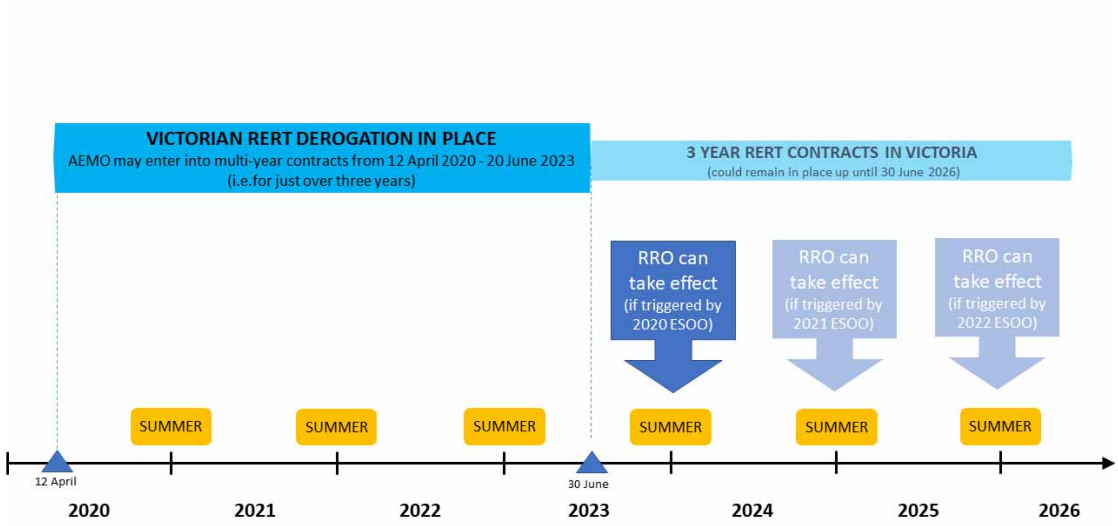
Furthermore, the ability of AEMO to enter into multi-year contracts should end prior to the time at which, were the RRO to be triggered, retailers would be required to enter into contracts to meet their share of expected system peak demand. Otherwise, the time-frame would overlap with the obligations and incentives market participants face under the RRO. If this were to occur it would diminish the incentives for liable entities to contract under the RRO in Victoria since AEMO would also be in the market at the same time procuring three year RERT contracts.

Therefore, the Commission considers that the ability of AEMO to enter into multi-year contracts in Victoria under the derogation should end in June 2023 (running for three years rather than five), as shown in the following figure.

The Commission considers that AEMO should have the flexibility to enter into multi-year RERT contracts in the final year of the derogation - enabling them to be in place until June 2026 (for three-year contracts).

As illustrated in the figure, this is intended to provide for two summers post T-3, should the reliability outlook change given Victoria's reliability pressures. This timing and approach would also complement and allow AEMO to respond to the impacts of the ESB's reliability program; both the ESB's urgent actions including those requested by COAG Energy Council and the ESB's post 2025 market design. In other words, AEMO would have the flexibility to consider and enter into multi-year contracts, subject to the limitations on procurement and activation outlined in the preceding chapters, until June 2026.

Figure 7.1: Derogation duration



Source: AEMC

The Commission considers that a proposed three-year duration is preferable to the AEMC conducting a mid-point review, as suggested by Mondo. The Commission considers there would be stronger incentive for the Victorian Government and AEMO to provide an evidenced-based case in the context of a new rule change proposing an extension of the derogation, rather than in response to the AEMC's calls for submissions to inform a mid-point review.

7.4 Conclusions

Given the circumstances in Victoria, the Commission has decided to make a draft rule such that the derogation be in place for a period of approximately three years, rather than five, and end on 30 June 2023. This will give AEMO the ability to enter into multi-year contracts up until such time the RRO could be addressing reliability issues. Also, multi-year contracts of up to three years should be able to be entered into, subject a range of conditions, up to 30 June 2026 (where three year contracts are entered into by 30 June 2023).

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
EAAP	Energy Adequacy Assessment Projection
ESOO	Electricity Statement of Opportunities
LOR	Lack of reserve
LRC	Low reserve condition
MCE	Ministerial Council on Energy
MT-PASA	Medium Term Projected Assessment of System Adequacy
MW	MegaWatts
MWh	Megawatt hours
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
RERT	Reliability and Emergency Reserve Trader
RRO	Retailer Reliability Obligation
ST-PASA	Short Term Projected Assessment of System Adequacy
USE	Unserved energy

A SUMMARY OF OTHER ISSUES RAISED IN SUBMISSIONS

This appendix sets out the issues raised in the first round of consultation on this rule change request and the AEMC's response to each issue. If an issue raised in a submission has been discussed in the main body of this document, it has not been included in this table.

Table A.1: Summary of other issues raised in submissions

STAKEHOLDER	ISSUE	AEMC RESPONSE
AEC, Snowy Hydro, ENGIE, ERM Power, QEUN	The Commission should not be considering the derogation proposal as the issue was dealt with less than 12 months ago in the context of the Enhancement to the RERT rule.	There was a material change in circumstances with release of ESOO and its forecast for Victoria which included a breach of the reliability standard for the 2019-2020 summer as well as the increasing variability of reliability outcomes in Victoria. Further, the AEMC is not precluded from considering a rule change request on similar subject matter to rule made or considered in the past 12 months.
Alinta Energy and Snowy Hydro	The proposed derogation adds further to the complexity and uncertainty facing industry in an already crowded policy and regulatory environment, characterised by several significant reforms and regulatory changes under consideration or ready to be implemented.	The Commission agrees that there are currently a number of challenges in the NEM, however this cannot be a reason to avoid considering proposals that could assist in addressing the reliability issues that arise in the context of the current transition.
AEC, ENGIE and Alinta Energy	The proposed derogation was contrary to a harmonised NEM.	Derogations are provided for under the NEL and are an important feature that allows for jurisdiction specific issues to be addressed.
Origin, EUAA, ERM Power, QEUN, the private resident from Victoria.	The following alternatives to multi-year contracting of RERT were provided:	While these suggestions have been noted, they are outside the of scope of this rule change

STAKEHOLDER	ISSUE	AEMC RESPONSE
	• That the Victorian Government acquire its own emergency reserves (Origin, EUAA and ERM Power) • That other innovative demand response initiatives be properly investigated (QEUN) • That technical changes are made to the way coal power stations operate and to create micros grids in weak parts of the grid (Victorian resident)	request.
Victorian private resident	Concern was raised amount the emissions that would be generated from more supply side RERT procured under multi year contracts.	The Commission noted that the RERT is being called on more in recent times to address reliability issues arising in the context of a transition to a greater proportion of VRE. Multi-year contracting of RERT should be seen in the context of providing a response to managing this transition.
ERM Power	Emergency reserves under multi-year contracts be taken into account in AEMO's forecasts. In particular, ERM Power raised concern that a greater volume of emergency reserves procured under multi-year contracting would not be taken into account of AEMO's assessment whether the RRO would be triggered.	The Commission considers that including emergency reserves, procured under multi-year contracts, in forecasts would not reflect the true status of the market. This would be distortionary because the signals to the market to respond to shortfalls would be muted. In addition, including emergency reserves in AEMO's RRO assessment could prevent the RRO from being triggered by including the

STAKEHOLDER	ISSUE	AEMC RESPONSE
		emergency reserves in the assessment and this is unlikely to be a desirable outcome.
ERM Power and Snowy Hydro	Concern was raised that the implementation of a RERT rule which is specific to one jurisdiction would cause material complications for AEMO's management of power system operations across regions with asymmetric RERT arrangements.	The Commission notes that AEMO has not raised any concerns about complications for management of power system operations across regions with asymmetric RERT arrangements.
AEC	Due to the derogation only applying in Victoria, there is a risk that costs for consumers (either in Victoria or South Australia) will be increased by AEMO being constrained in its ability to purchase the most cost-effective reserves, due to geographic restrictions.	The proposed derogation does not constrain AEMO from acquiring cost effective RERT.
Alinta Energy	The derogation may be extended in the same way that other jurisdictional derogations have been.	The Commission notes that a unique set of reliability challenges are faced by Victoria that justify the need for a time-limited derogation.
Alinta Energy	The role of the RERT is not to attract investment in small-scale (or any type) of generation. The primary signal for new investment in the NEM is that provided by spot market outcomes in the gross pool. The proposed rule will not enhance investor confidence in the Victorian generation market.	The Commission agrees that the primary signal for investment is provided by the spot market outcomes. As explained in Chapter 5, the Commission does not consider that derogation will lead to significant market distortions.
AGL	A multi-year contract under this derogation be provided with a different name, such as Victorian Emergency Reserves, to distinguish it	For the purposes of rule drafting, the Commission has referred to contracts under the derogation as *multi-year Victorian contracts.* See

STAKEHOLDER	ISSUE	AEMC RESPONSE
	from the normal operation of the RERT.	draft rule clause 9.5.1.
QUEN	It is crucial not to over-invest in generation assets or paid demand response as this over-investment will be borne by consumers for multiple years.	The Commission notes that decisions to invest in generation and demand response assets are made by market participants. Risks of over-investment in these assets will be largely borne by market participants.
ENGIE	If there is risk of tight supply-demand balance in Victoria, it follows that there should be a high chance of price cap events. These in turn should provide sufficient incentive for any cost-effective capacity to be built as a market-facing asset. If the rule change proponent considers that this incentive is not there, then this presents a more fundamental risk in the market.	The Commission notes the investment in the market driven by price signals provides better outcomes for consumers. The RERT mechanism serves as a last resort mechanism to maintain reliability when the market fails to respond.
ERM Power and AGL	The Commission should take into consideration the possible introduction of the wholesale demand response mechanism from July 2022, which could help address reliability challenges in Victoria.	The Commission notes that is has recently extended the time frame for making a final determination for the wholesale demand response rule change request until 11 June 2020, with an expected second draft determination to be released in March 2020.

B LEGAL REQUIREMENTS UNDER THE NEL

This appendix sets out the relevant legal requirements under the NEL for the AEMC to make this draft rule determination.

B.1 Draft rule determination

In accordance with s. 99 of the NEL the Commission has made this draft rule determination in relation to the rule proposed by the Honourable Lily D'Ambrosio MP, Minister for Energy, Environment and Climate Change, Minister for Solar Homes.

The Commission's reasons for making this draft rule determination are set out in section 3.4.

The more preferable draft rule provides a time-limited jurisdictional derogation to allow AEMO to contract for reserve electricity capacity under the RERT mechanism on a multi-year basis (of up to three years) in Victoria. A copy of the more preferable draft rule is attached to and published with this draft rule determination. Its key features are described in section 3.4.

B.2 Power to make the rule

The Commission is satisfied that the more preferable draft rule falls within the subject matter about which the Commission may make rules. The more preferable draft rule falls within ss. 34(1)(a)(i) to (iii) and 34(1)(ab) of the NEL as it relates to regulating the operation of the NEM, the operation of the national electricity system for the purposes of the reliability of that system and the activities of persons participating in the NEM or involved in the operation of the national electricity system. Further, the more preferable draft rule falls within the matters set out in Schedule 1, item 6J of the NEL as it relates to the administration and exercise of the procurer of last resort (POLR) function by AEMO and related reporting, as the RERT is essentially the POLR function.

B.3 Commission's considerations

In assessing the rule change request the Commission considered:

- it's powers under the NEL to make the rule
- the rule change request
- submissions received during first round consultation
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the NEO
- confidential information provided by AEMO to the Commission
- recent AEMO reports covering reliability issues in Victoria, including the 2019 ESOO, the 2019 EAAP and the Summer Readiness 2019-20 Plan

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[244]

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of Australian Energy Market Operator (AEMO)'s declared network functions.[245] The more preferable draft rule is compatible with AEMO's declared network functions because it is unrelated to those functions.

B.4 Civil penalties

The Commission cannot create new civil penalty provisions. However, it may recommend to the COAG Energy Council that new or existing provisions of the NER be classified as civil penalty provisions.

The draft rule does not amend any clauses that are currently classified as civil penalty provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the COAG Energy Council that any of the proposed amendments made by the draft rule be classified as civil penalty provisions.

B.5 Conduct provisions

The Commission cannot create new conduct provisions. However, it may recommend to the COAG Energy Council that new or existing provisions of the NER be classified as conduct provisions.

The draft rule does not amend any rules that are currently classified as conduct provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the COAG Energy Council that any of the proposed amendments made by the draft rule be classified as conduct provisions.

244 Under s. 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for energy. On 1 July 2011, the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated council is now called the COAG Energy Council.

245 Section 91(8) of the NEL.

C USE OF THE RERT MECHANISM

Prior to 2017, AEMO had only entered into RERT contracts three times and it had never been dispatched. This changed in 2017, when AEMO entered into a number of emergency reserve contracts. Since that time, AEMO has used the RERT a number of times, including November 2017, January 2018, and most recently in January 2019. This increase in use of the RERT reflects the changing system needs, including a growing proportion of variable renewable generation, an aging fleet of thermal generation, a tightening supply-demand balance, peakier demand and higher temperature peaks. Below is a summary of the recent use of the RERT.

November 2017

On 30 November 2017, RERT contracts were procured and dispatched in Victoria starting at 3:30pm and finishing at 9:20pm that same evening. AEMO activated 32 MW from three reserve contracts. This was the first time the RERT had been used.[246]

January 2018

On 18 January 2018 at 5pm, AEMO informed the market that it had entered into a RERT contract for the following afternoon and evening. Following insufficient market response on19 January, AEMO activated 130 MW from across eight reserve contracts in Victoria and 6.5MW from two reserve contracts in South Australia. These contracts were deactivated as the large contingency event did not eventuate.[247]

January 2019

More recently load shedding and a RERT event occurred on 24 and 25 January 2019 in Victoria and South Australia, where approximately 375,000 householders were without power.[248] AEMO identified that the following factors contributed to the reliability issue:

- reductions in availability of electricity supply due to thermal inefficiencies
- unexpected equipment failures
- urgent maintenance activity and
- reduced generation capacity[249]

AEMO activated RERT contracts to reduce demand in Victoria and South Australia (South Australian contracts were only activated on 24 January). AEMO stated that:

- 1621 MWh of emergency reserves were dispatched on 24 Jan (Victoria and South Australia combined)
- 1472 MWh of emergency reserves were dispatched on 25 Jan (Victoria only).

246 See http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Summeroperations-report/Summeroperations-report-2017-18

247 Ibid.

248 AEMO, 2019 Electricity Statement of Opportunities, August 2019, page 72.

249 See https://www.aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Power_System_Incident_Reports/2019/Load-Shedding-in-VIC-on-24-and-25-January-2019.pdf

The average cost of RERT for 24 and 25 January was around $10,000/MWh, with a total cost of $34.2 million (including compensation).

While the RERT reduced the amount of load shedding required, it was not enough to avoid the need to shed some load in Victoria to balance demand and supply. On 24 January 266MW of load was shed and on 25 January 272 MW of load was shed, both in Victoria. AEMO noted that without RERT, it estimates that a further 1,252 MWh of load shedding would have been required.[250]

250 Ibid.